NOVEMBER 1910 — No. 59

Issued Every Month

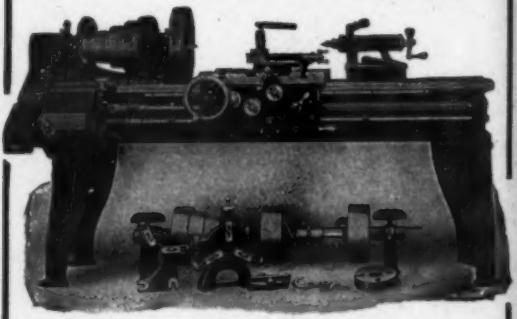
for Free Distribution to Users of Machine Tools

HITCHCOCK'S MACHINE TOOL LIST

A Reference Book for Buyers of Iron Working Machinery

Published by
A. H. HITCHCOCK
1220-1235 Caxton Building
Chicago

Why The Champion



14-inch Lathe

If you will take our catalogue and make a comparison from the specifications of the large hole in spindle, large spindle bearings and other equally advantageous proportions, together with the fact that **"Champion Lathes"** are manufactured from the highest class material and workmanship, and after the most approved methods, you will find a reason *why* these machines are being placed in many of our large Tool Rooms and Factories,

They're the serviceable, convenient, accurate tool wanted for the best results.

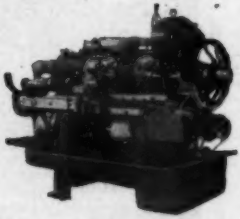
10-12-14-16 & 18-inch, New Standard or Quick Change, with and without special Lathe Attachments.

Champion Tool Works Co.

2426 Spring Grove Ave., Cincinnati, Ohio, U. S. A.

ACME ADAPTABILITY

The superior adaptability of this machine to heavy forming, milling, drilling, etc., on a class of work where frequent changes are necessary is evidenced by its adoption by railroad companies.



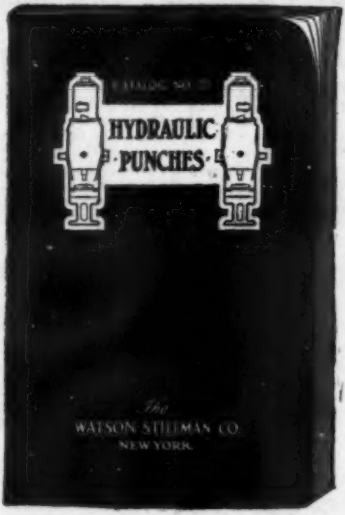
The Acme Automatic

Master Mechanics have realized that the low cost of each piece which they are making is due to the method of the Acme and its ability to continuous operation.

The method is a simultaneous one — all the tools, sometimes eight or more, work on four bars of stock at the same time, and finish the piece in the time taken for the longest single operation.

The National-Acme Mfg. Co.
Cleveland Ohio

NEW YORK, 77 White St. CHICAGO, 549 Wash'n Blvd. BOSTON, 141 Milk St. DETROIT, 1222 Majestic Bldg. ATLANTA, Candler Bldg.



Want to Know About Improvements in Hydraulic Punches?

Then ask us for a copy of this new Watson-Stillman Catalog No. 77. Its pages list many new tools never before described in print, and also all older types of punches and shears that have proven most useful and have made such an enviable name for the Watson-Stillman Co.

Watson-Stillman Hydraulic Tools are built for all kinds of lifting, pressing, bending, straightening, pumping, punching, shearing, etc., and we also make an extensive line of hydraulic accessories and fittings. Tell us your requirements and our engineers will advise you freely.

The Watson-Stillman Company

Church & Fulton Sts., New York

Testing

CISCO

14 Inch Lathe

on 25 Carbon Steel

We Cut

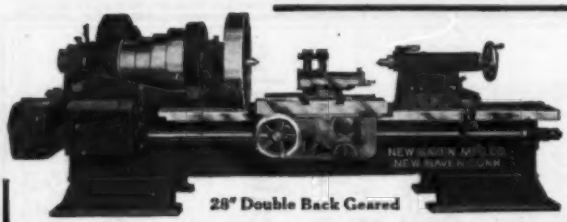
9-16 at 36 to Inch Friction Feed
3-8 " 18 " " Screw "
1-4 " 16 " " " "

Cast Iron

7-8 at 18 to Inch Screw Feed

Tried to
But
Couldn't
} **Break Lathe**

MACHINERY AND EQUIPMENT DEPT.
THE CINCINNATI IRON & STEEL CO.
CINCINNATI, U. S. A.



28" Double Back Geared

BEWARE of the lathe with one or two special features, as you would a man with a hobby, for it is rarely that either is well balanced.

New Haven High-Power Modern Lathes

Are "Special" Clear Through, Each Part Properly Related to the Others

Some manufacturers make a special feature of the Headstock. So do we. The New Haven Headstock is second to none in meeting all conditions of service, with abundance of power for fast or slow speeds. But our Tail-stock is also special; it is very rigid, and it will not slip on the bed under a heavy cut, or while adjusting the set-over for tapers with heavy work hanging on the centers. Their thread cutting is special, too, especially for coarse threads, without extra fixtures or gearing. They are also special in their quick change gear device, in their double wall box form apron, in their rigid bed—"the back-bone of the lathe;" but above all, they are very special in POWER and ACCURACY—send for folders "The Power of the Lathe" and "Tests for Accuracy."

Any size from 18 to 65 in. swing; 18 to 36 in. carried in stock.

New Haven Manufacturing Co., - New Haven, Conn.

Buy
Cincinnati Lathes

if you want qualities that count in tool room or for general manufacturing. All have **double wall apron, chasing dial, automatic stop** and **cabinet leg.** We furnish either 3 or 3 step Cone and 2 kinds of **Feed Boxes.** Select the machine best adapted for your work.

The Cincinnati Lathe & Tool Company

2730-32 Spring Grove Avenue, : : : Cincinnati, Ohio

Turret Chucking Lathes

With Ample Power and Rigidity

They stand up well under the heaviest strain, making it only a question of what the cutting tools will stand. If you want a lathe that always makes for chucking work quickly and accurately, examine our line. We make them in 16, 18, 20, 24, 28 and 32 inch sizes. With head spindle of extra high carbon steel, and spindle bearings of bronze, you will find them built right in every detail.

Catalog and description forwarded gladly

FAY & SCOTT, - DEXTER, ME.

Complete line of Standard Engine, Extension Gap and Patternmakers' Lathes, Planer and Shaper Centers.

"Cincinnati" Heavy Duty Shapers

Give Lowest-Cost Service

24-inch, Back Geared

"CINCINNATI" SHAPERS are designed and built with one prime object always in view—to give the most and the best service at the lowest cost.

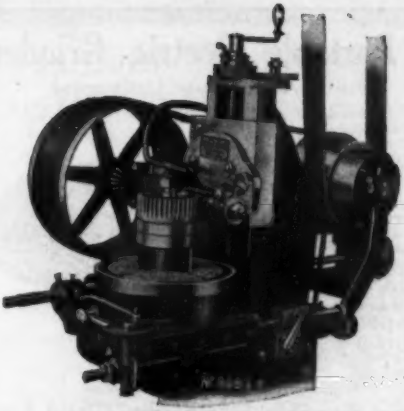
They have the power to take deep cuts, the rigidity to stand up under heavy work, and a safe reserve of strength and solidity that insures dependability. They are as accurate as they are powerful and rigid---they are made with care.

Our free Shaper Book is an education in careful tool building

The Cincinnati Shaper Co.

Colerain Ave. and Elam St., CINCINNATI, OHIO

Plain and Back Geared Crank Shapers, Geared Rack Shapers, Open Side and Traverse Shapers.



Get Our Booklet

"Gear Cutting Speeds"

and learn how to figure for yourself the output of any hobbing machine.

The Farwell Gear Hobber cuts more gears for the money invested, or floor space required, than any other hobber on the market, and, of course, more than could be produced on other types of gear cutters regardless of price.

Ask for Booklet No. 804-H

The Adams Company, 846 Second St., Dubuque, Iowa U. S. A.

A Portable Electric Grinder

That's Absolutely Universal

Full Universal—With even a wider scope than stationary universals.

Adjustments—Up-and-down and angle; equally efficient at any angle.

Capacity—Removes .005 in. on average work, and finishes to .001 in.

Variable Speed—Adds neither weight, nor complication, and adjusts instantly to any speed between 3,400 and 4,800 r. p. m.

Also made in 4 larger sizes

No Overheating on a continuous run at any load.

Construction—Simple and durable; we guarantee its absolute dependability.

Descriptive Bulletin No. 1 illustrates several interesting operations

The Smith Electric Tool Co.

Cincinnati, Ohio

AIR COOLED DRILLS

ARE BEST BY TEST

SEVEN SIZES

TO BORE IN STEEL

3-16, ¼, ⅜, ½, ¾, 1 and 1¼ inch. They are made for either alternating or direct current, and are dependable tools that we guarantee will give you satisfaction.

We make Center and Surface Grinders

From One-Quarter to Two Horse Power

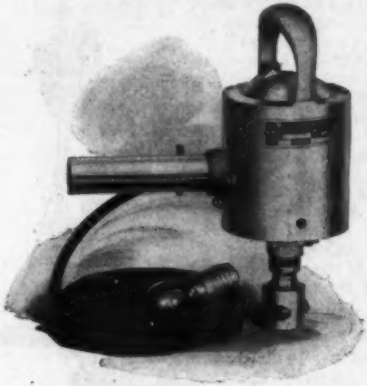
They are time and money savers that you ought to investigate. Glad to send them on trial for a test in your own work.

THE UNITED STATES ELECTRICAL TOOL CO

CINCINNATI, OHIO

Van Dorn "Hard Service" Drills and Reamers

Electrically Operated



Type A-1.

Increase your *output* and decrease your *factory cost.* This means more business and better profits. You can do it by installing "Hard Service" portable Drills and Reamers, electrically operated. These are your *Ultimate* tools and mean *maximum production* at *minimum cost.*

Built in 6 sizes, scope 0-2 in.

Write for Bulletin No. 20

The Van Dorn & Dutton Co.

Cleveland

New York **Pittsburg**

A Drill that is a Tapper

A Tool to Investigate

When used as a drill, all tapping parts are idle. As a tapping machine, it reverses automatically *at both ends* of the stroke. The change for either drilling or tapping is made instantly.

No. 51 weighs 550 lbs., drills ¾ in., taps ½ in.

No. 11 weighs 275 lbs., drills ½ in., taps ⅜ in.

Style A. is adapted to style A. and style B. Barr multiple drills.

Style E. is adapted to style E. and style F. Barr multiple drills.

Barr Multiple Spindle Machines are arranged in any desired combination, with our power feed and quick return to produce work economically—the latest and best methods of handling jig or fixture drilling or tapping.

We have just what you need.

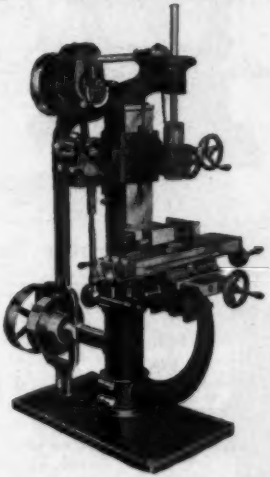
What are your drilling and tapping requirements?

H. G. Barr Drilling Machine Co.

12 Hermon St., Worcester, Mass.

Saves Valuable Tool Room Time

No. 2 Knight Milling and Drilling Machine will save you from 20 to 50 per cent on a big variety of Tool Room Work



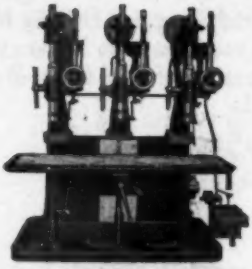
CONSIDER that with only one setting of the work you can mill, bore and drill at almost any angle. In fact, its convenience is so great that it takes the place of several ordinary machines. You are always sure of the accuracy of your work because the table is graduated.

We have an illustrated folder giving views of sixteen actual operations, some of them quite difficult. Tell us you're interested and we'll forward a copy.

W. B. Knight Machinery Company
St. Louis, Mo.

Our No. 1 is a lighter machine, but equally covenient

Rockford Gang's

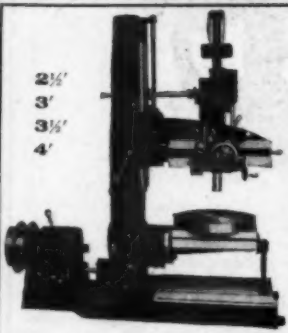


They not only drill, but they bore, ream, tap and face without removing work from jig.

Write for descriptive matter

Rockford Drilling Machine Company

Rockford, Ill., U. S. A.



One lever controls all spindle movements of the

Gang Radial

That means ease and convenience of operation, and more and better work. The three feeds and eight drilling speeds—12 speeds with speed box—also help some. There are more good features, and every detail has had our careful attention.

Send for circular regarding our friction type head, style "G," and other up to date equipment

The Wm. E. Gang Company

Cincinnati, Ohio

For Drilling With High Speed Steel

This new 24-inch swing High Duty Drill, with a capacity for drills from ½ in. to 1¾ in., drives high speed steel drills to their limit in solid steel. Its strong, rigid construction is clearly shown in cut. Spur gears are used entirely, except 1 pair of 2 to 1 bevel gears, and everything is driven in a straight line, with the result that practically *all* the power is transmitted directly to the drill point. This machine is reasonable in cost and it easily excels all other types in efficiency. Details?

The Foote-Burt Company,

Cleveland, Ohio.

A 14-in. Drill Press

For Particular People

A drill press is a drill press to some people; but others are more particular. This one is made for those who like things *right*.

The design is neat, the construction is rigid, and it has all desirable adjustments of round and square tables, with gauge for holding work at any angle; a very sensitive spindle adjustment; belt guides throughout, a 3-in. belt-tightening adjustment, etc., etc., with the finish and careful assembling of parts that make a perfect tool.

We're ready; will you write?

Rockford Lathe & Drill Company
Rockford, Ill.

HIGH DUTY
ROCKFORD
PUNCH PRESSES

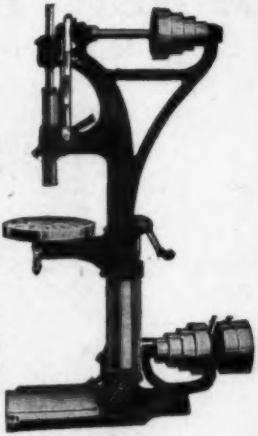
Are built on common sense lines free from freak attachments. They are modern, accurate, durable and reasonable in cost.

Write for full details

Rockford Iron Works
Rockford, Illinois

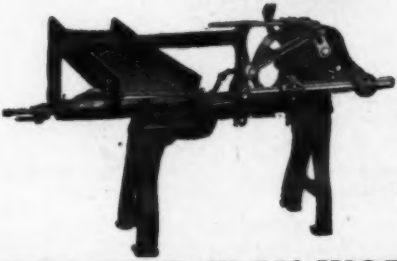
The Best Value
In Drill Presses

Are our Modern 20" and 21"



They do rapid and accurate work at a very low cost, and cost very little to install. Our deliveries are from stock.

For cutting your Bars or Shapes get a Royal Power Saw—Simplest and best.



Write today for Booklet and Circulars

FRONTIER IRON WORKS

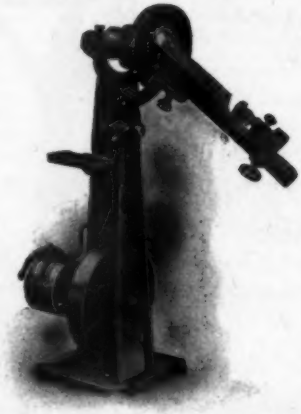
Letchworth and Grant Sts., Buffalo, N. Y.

Any Drill Grinder Is Better Than None

A NEW YANKEE

Is Best of All

Style A
Original
Type



Innumer-
able
Styles

Over four-fifths of the drill grinders sold in America are New Yankees. The reason is plain if you look into it. Let us explain it and you'll never be satisfied elsewhere.

The only way to avoid paying for a New Yankee is to buy it and let the machine pay for itself.

Catalog free

Wilmarth & Morman Co.

575 Canal St., Grand Rapids, Mich.

GARVIN
Surface Grinder
Hand Feed

A valuable tool for grinding and sharpening dies, punches, etc.

Size of table 5x15 in.
In and out feed - 9 in.
Spindle adj. - - - 7 in.

Garvin Surface Grinder
IMMEDIATE DELIVERIES
Manufactured By
THE GARVIN MACHINE CO.
Spring and Varick Sts., New York City

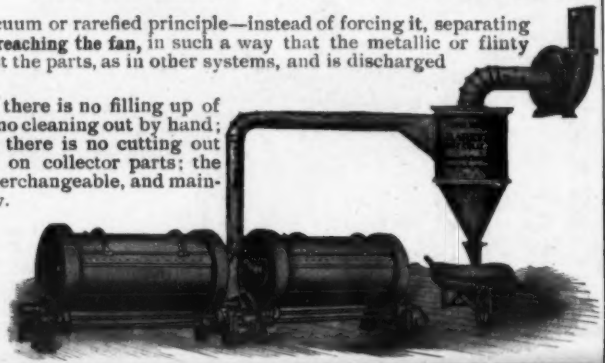
Tumbling Mills and Other Dust Raisers

Secure Complete and Economical Relief Only When They Use

The Morse "Rarefied" Dust Collector

It **draws** in the air—the vacuum or rarefied principle—instead of forcing it, separating the dust from the air **before reaching the fan,** in such a way that the metallic or flinty matter does not grind against the parts, as in other systems, and is discharged automatically.

The suction never varies; there is no filling up of cloth or screens, and there is no cleaning out by hand; there are no moving parts; there is no cutting out of fan and no undue wear on collector parts; the inner separating walls are interchangeable, and maintenance cost is extremely low.

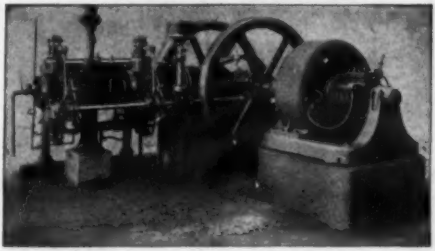


Write for description and estimate

The Knickerbocker Co.,
Jackson, Mich.

It's Your Ultimate Power

Because Reliable and by Far the Cheapest
Then why not investigate now?



"THE LITTLE BIG ENGINE"

WE GUARANTEE that the smallest units of our Gas Producer Engines will not consume over 1¼ lbs. of pea coal per h. p. hour. Figuring the coal at $5.00 per ton, this is equivalent in fuel cost to—

Bituminous coal for the simple steam engine at *80 cents a ton;*

Illuminating gas at *15½ cents*, or **natural gas** at *26 cents per 1,000 cu. ft.* for the gas engine;

Gasoline at *2½ cents a gallon;*

Electricity at *.55 of a cent per k. w.*

If you are using either steam, illuminating gas or electricity, you would literally jump at those prices, *if you could get them.*

But you CAN get their equivalent.

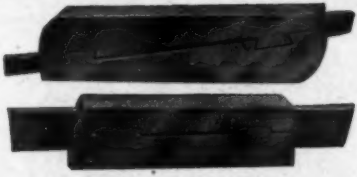
While we build them up to 250 h. p., our special effort is toward the introduction of producer gas units from 20 to 75 h. p. When your growth requires it, you can add to your power equipment as you would add sections to your filing case.

Let us tell you all about "The Little Big Engine," the "Split Unit" idea, and our "Show-me" Guarantee.

The Elyria Gas Power Co.

Elyria, Ohio

A Tool Holder Indeed



The T C

Are Proven the Best Tool Holders

No monkeying with a set screw to hold the Cutter. Simple but effective.

The Tool Post screw holds cutter and Tool. Then it's reversible. Two tools in one. Saves Mechanics time, they like it, no bothering cutter set screw. Long cutters save waste of expensive Tool Steel. Chatter troubles ended.

Wm. Shelton Nicholls

281 Broadway, New York

The United States Turning Tool

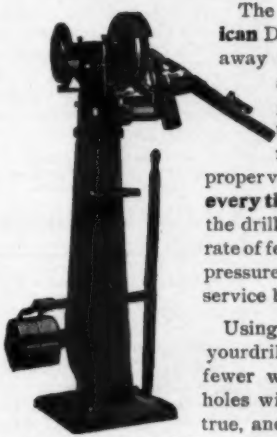
is a "winner" for all around work. The head is low, cutters are of self-hardening steel and designed for rapid and economical work. It has a solid support on the **Sides** of the cutter—insures heavier cut than any other holder of the same size. Saves its cost several times in a single month.

Send today for catalogue.

The Fairbanks Company

Springfield, Ohio

Correct Drill Points Insure Big Results



The Improved **American** Drill Grinder does away with all "notions" about getting a good drill point; the automatic lip rest gives you the proper vertical cutting edge **every time.** This enables the drill to stand a high rate of feed, to require little pressure, and to give long service between grindings.

Using the American, your drills will last longer, fewer will be broken, the holes will be straight and true, and your output will be increased materially. The machine may be had belt or motor driven.

Our book on Drill Grinding is educational; we'll send it if you'll say the word.

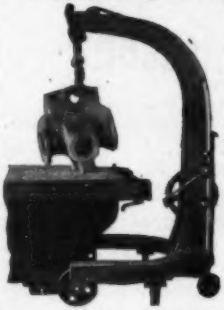
THE HEALD MACHINE COMPANY

25 New Bond St., - - Worcester, Mass.

Our Wet Grinder is also a Winner.

It's "The Handiest Tool in the Shop"

No Iron-Working Plant is Complete Without It. Saves Tugging, Lifting and Lugging in a Thousand Ways.



It's a fair estimate to say that, in a shop of only 10 men, the

Canton Portable Crane and Hoist

will average a saving in workmen's time amounting to *Four to Five Hundred Dollars a year.*

And the handiness of it! And the saving of muscles, backs and fingers, and the safety to heavy parts!

You may have one on trial. Or if you wish facts, figures and folders first, let us know.

The Canton Foundry & Machine Co., Canton, O.

Mono Rail Hoists and Over Head Track Systems

A five ton hoist operated from cab or floor. Used to transfer material from one building to another, for unloading cars, general yard work, etc.

Mono Rail Hoists and trolleys of all types.

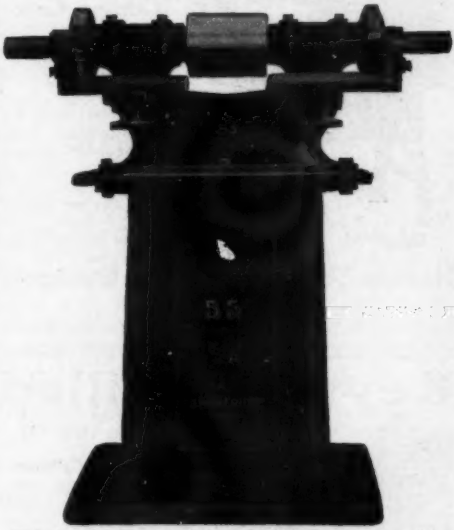
Nothing too large or too small, to receive our careful and prompt attention.

The Euclid Crane & Hoist Company

Euclid, Ohio, U. S A.

No. 55 Floor Grinder

With Cabinet Base



This is a high grade Emery Grinder—a real machine tool, with every part accurately finished and absolutely interchangeable. The spindle is of tough steel, lathe turned and threaded. Collars are forced on and turned slightly concave, and nuts are carefully faced so they will not spring the shaft. It has long bearings, babbitted, self-oiling with double rings, and dust-capped. Oil reservoir is filled from the side, which prevents emery dust from reaching the bearings.

Let us figure with you on your needs in well-made, practical emery grinders. With this style in three sizes, and a line of smaller bench or column grinders, I can give you what you want at reasonable prices.

E. O. PARTRIDGE, 819-21 W. Lake St., Chicago

Also Foot Presses and Tapping Machines

Racine-High-Speed-Saws

Patented July 13-09

Cut Your Cutting Cost

Will Do The Work of 6 Ordinary Machines

A trial order has placed as many as ten machines in various shops.

30 days free trial.

Ask for Racine Blades.

Racine Tool & Machine Company

Racine Junction, Wis.

Eastern Representative: Simplex Tool & Supply Co., Boston, Mass.

Keyways Milled

on the

Drill Press

Simple as drilling a hole. Accurate duplicate work in less time than you can start it by other methods.

Oil grooves milled entirely within the journal, preventing oil from escaping from either end.

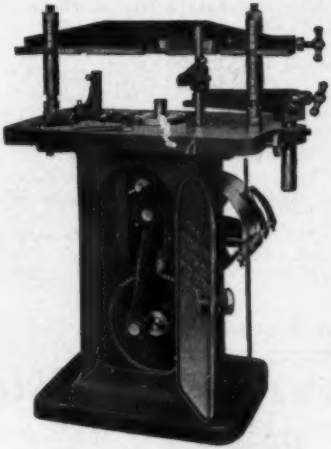
National Keyseat and Oil Groove Millers for all jobs of internal Oil Grooving and Keyseating.

Write for new catalogue

National Machine Tool Co.

128 Longworth St., Cincinnati, Ohio.

Accurate Machine Tools



Davis Keyseater

Made in two sizes

Suitable for internal keyseating in pulleys, gears, etc.

A simple, well made tool, giving a large output at a small cost.

No expert operator required.

Orders can be sent to us direct or through leading machinery dealers in all parts of the world.

For further particulars address

The W. P. Davis Machine Co.

Rochester, New York, U. S. A.

A 12 Inch Saw, $100.

Immediate Delivery

Screw Feed and Ball Bearing Thrust

Cuts 3x5 or 1-2x9 inch.

Power Friction Feed.

Automatic Knockout.

Large Clamping Table.

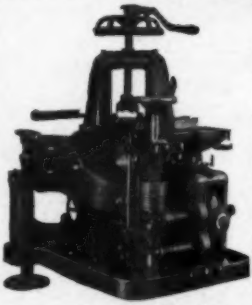
20 in., $200.

CAPACITY:
5⅜ Inch Rounds
12 Inch I Beams

Write for particulars

Burke Machine Co., Conneaut, Ohio

Here's a New Feed Mechanism



The Lea-Simplex Cold Metal Saw's feed mechanism consists of the well-known Sellers Disks. Any desired rate of feed is instantly obtained and is registered on the dial in plain sight of the operator. No other feed mechanism has this feature.

For full details ask for our new folder, free.

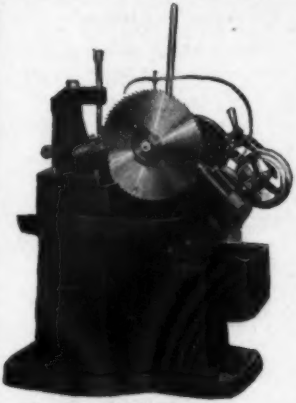
Lea Equipment Company

90 West St., New York City

COCHRANE-BLY

Cold Saws and Sharpeners

Illustrations show a desirable equipment for general shop use



No. 2-B is 4½-inch capacity round stock and has vise equipment for all shapes. Rigid construction, three changes of feed with powerful drive mechanism, affording favorable conditions for the saw.

The No. 10 Automatic Sharpener has capacity for blades 10 in. to 15 in. diameter, and grinds and bevels perfectly in one operation the special type of blade used on our machines.

A sharpening machine is not a necessity, but a convenience and an economy.

Five sizes metal saws. Two sizes sharpeners.

Cochrane-Bly Company

Rochester, New York, U. S. A.

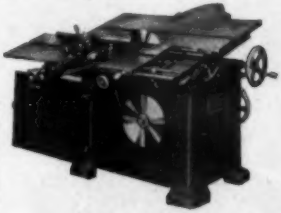
Special Wood Working Tools

For Pattern Shops

Machines selected for their precision, and adjustability. Built like machine tools, and designed primarily for pattern shop service.

"West Side" Band Saw

Steel wheels, which can neither break, warp, twist or spring; under cut hubs; self-oiling bearings; brass-bushed loose pulley; tilting table; all adjustments made by operator without leaving his position. A band saw widely known for its superiority of design and construction.



Tannewitz Universal Double Saw Arbor

The last word in saw tables for accuracy and convenience. Gauges and adjustments for every possible requirement. A notable improvement upon a type of saw table conceded to be indispensable in every pattern shop.

Porter 20-Inch Jointer

The highest grade jointer or hand planer in market. Patented guard and safety cylinder; specially grooved tables.

We outfit pattern shops complete, guaranteeing the accuracy and efficiency of every tool. Whether you want a full equipment or a single machine, you will find our service helpful.

We shall be pleased to have you consult us

Chicago Machinery Exchange

Manufacturers' Exclusive Representatives

159-161 North Canal Street, Chicago

Can furnish used machines, if desired, carefully rebuilt in our own shops and fully guaranteed.

A bar of Air-Hardened Steel this size will be cut in Ten Seconds by

The Abrasive Metal Cutter

YOU WILL FIND the ends left square and true, no grinding to shape required. High Speed, Carbon or Cold Rolled Steel, Brass, Bronze or any other metal, cut with equal facility. Does away with all notching and breaking. Thin or flexible tubing cut in two seconds, leaving a polished finish.

This speedy machine will do all the cutting-off ordinarily done with hack saws, lathes or milling machines. Cuts stock up to 2 inches, round or square, and never draws the temper.

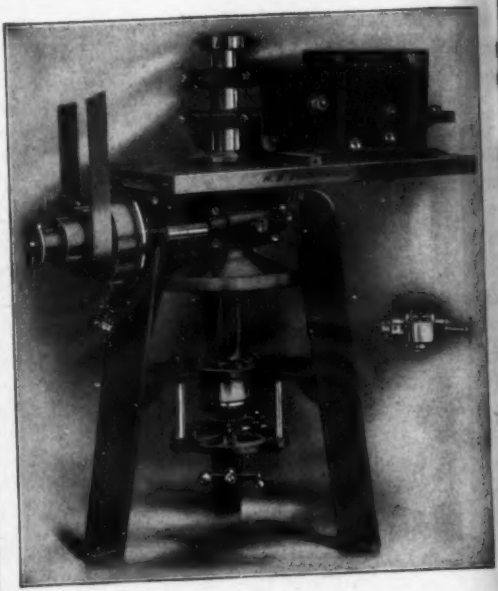
Get acquainted with this machine and learn how much valuable material and time it can save you

Slack Manufacturing Co.

Springfield, Vt.

Vertical Boring

A Small Machine for



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H. B. UNDERWOOD &

1022 Buttonwood Street,

ing Machine

e for Big Work

Haven't you sometimes found it difficult lamp certain pieces of your work to the inary machine for boring and facing?

This tool is designed to permit irregular pes and large pieces being easily set up and ened. There is nothing in the way to r obstruction. It is very handy in boring facing hubs of gears and fly wheels and h similar work, where ordinarily a large chine is required. It takes but little room power. The spindle is 3" in diameter h large bearings close to the work to re rigidity.

Six changes of feed to suit requirements.

This vertical borer is particularly efficient reboring automobile cylinders, besides its e range in other work.

Write for catalogue

D & CO., ***Est. 1870.***

Philadelphia, Pa.

Strength—
Accuracy—
Simplicity of Construction

are combined in our tools. They are all made direct from bar steel and forgings, the best grade of open hearth screw stock being used, together with finest quality of crucible steel.

Our **Adjustable, Self-Opening Screw-Cutting Die Heads** and **Collapsing Taps** are in general use in Screw Machine work by manufacturers who are operating either hand or automatic Screw Machines.

It may be that **you** have failed to take advantage of our tools, while we have the very one that you need ready for you.

Write us about the work you have to do, and we will send you a drawing of the correct tool for the work, with description and price.

The Geometric Tool Company
New Haven, Conn., U. S. A.

Rogers' "Talks"

Fixed Caliper Gauges

These little portraits from life leave nothing to be said concerning the "looks" of two of our most popular measuring devices. We strongly suspect that popularity of being due to their "get-up," which is thus: Fine steel, extreme care in every detail of workmanship, and a "know-how-ness" of long standing. Made in sizes from ¼ to 6 inches by sixteenths or in any special size called for. We are well equipped for doing extra delicate machine work and are both able and willing to take the trouble to make a success of such jobs. Glad to hear from you whenever you have such to be "did." Our small tool catalog might interest you. Shall we mail it? No. 23.

John M. Rogers Works
Gloucester City, N. J.

Bench Milling Machine

New Model

Yes, a small machine, but quick operating, and just right for those light milling cuts. We have sold hundreds of them and they always please. Vise, centers, and two speed friction countershaft furnished with this machine.

Send for circular

The Carter & Hakes Co.

West Winsted, Conn., U. S. A.

Burke's Bench Miller

Milling Machine

A Seasoned Tool

The tool to buy if you want extreme accuracy and permanent alignment five years hence as well as now. In making this miller the greatest care is taken thoroughly to season all castings both before and after machining. We carry these frames and parts from six to eight months after work begins on them before the final finishing is done. The result is a tool that is accurate and will stay accurate as long as you use it. For precision work it has no equal.

Longitudinal feed, 8¼ in.; traverse feed, 4 in.; vertical motion of knee, 8¼ in.; table surface, 3½x16 inch.

BURKE MACHINE CO.

Conneaut, Ohio

The National Riveter

Spins a Polished Head

on a rivet so quickly and so easily that it seems like play.

Your output is greatly increased and your loss from broken castings and bent rivet shanks entirely cut out.

The process is noiseless

We send full information for the asking

The Cincinnati Pulley Machinery Co.
Cincinnati, Ohio

At Your Service, Sir!

Eliminate worry and your efficiency multiplies

Let us produce the machine or parts that cause the delay and trouble in your shop.

Our business is to relieve busy manufacturers of their surplus work or difficult parts–to act as their auxilliary shop—and we have the necessary facilities to do it promptly and accurately.

We contract to produce auto parts, build engines, machines, tools, and specialties.

Send blue-prints and specifications for estimates.

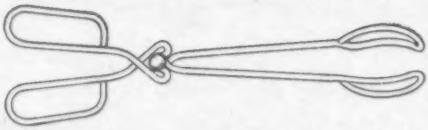
If we cannot be of service to you, it's our loss, and you are under no obligation to us.

Let's get together—today—now.

The P. A. Geier Company

5112 St. Clair Ave., Cleveland, Ohio

EGG TONGS

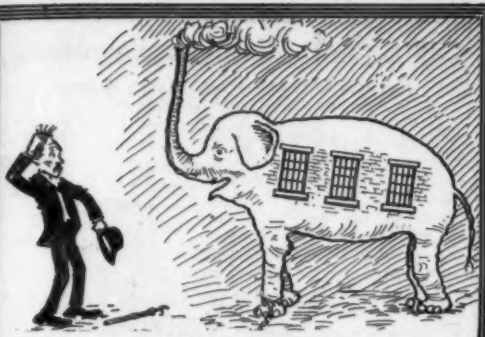


One of the numerous articles that can be riveted at the rate of from 10,000 to 12,000 per day of ten hours by a boy or girl on a Grant NOISELESS Rotary Rivet Spinning Machine.

Send samples for estimate.
Get our catalog "H".

The Grant Mfg. & Machine Co.

Bridgeport, Conn.



Don't Let Your Small Factory Become a White Elephant

PRIDE keeps many a small factory creeping along, when the owner could make a great deal more money, could make it more easily and with less worry, and could build up a reputation more quickly, by having his machines made on contract, in a large, well equipped plant, while devoting his entire time to building up his market. That's both the sensible view and the dollars-and-cents view.

Let Us Be Your Factory

and you will get good machines, built by experts in a plant organized for the greatest economies in the production of special machinery. You will get them at a price that will enable you to make money, you will get better deliveries, and you will be able to devote more of your capital and all of your time to building up an effective selling organization.

It will cost you nothing to get our estimates.

C. H. Cowdrey Machine Works

Fitchburg, Mass.

Builders of Special Machinery for the U. S. Government.

Oil Saved Reduces Expenses

The Curtis Oil Extractor takes it from your Chips and Shavings

With this machine to be had at a reasonable price, there is no reason why your oil should be thrown away after just one service. The oil will serve as well for the 5th or the 15th time—and you are that much oil ahead. A steam attachment for cleaning waste can also be furnished.

No. 400—Capacity: 2 Bushels

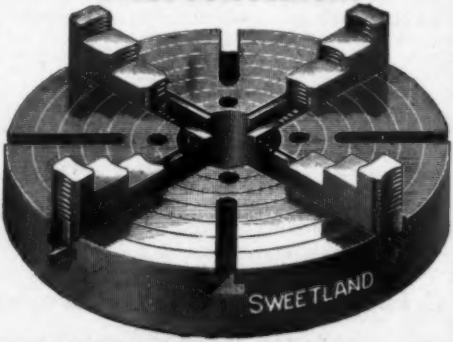
Let us tell you what each of our three sizes can do for you—and how well it is built

Curtis Oil Extractor Company

95 Foster St., Worcester, Mass.

INDEPENDENT CHUCKS

BUILT FOR SERVICE



THE HOGGSON & PETTIS MFG. CO., New Haven, Conn.

A Time and Money Saver

The "Morrow"

Ball Bearing, Self-Tightening, Quick Releasing, Drill Chuck

Positively a hand operated chuck, no key, no wrench, no spanner. *Accuracy* is another important feature of the "Morrow" Drill Chuck. Drills run true from shank to point. The only Drill Chuck made, that will *positively* hold straight shank drills without slipping. All hoods hardened and ground. These Chucks are constructed to meet the requirements of high speed tools, or for other tools, where hard work is required.

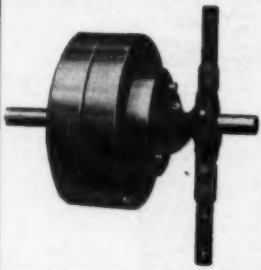
Made in Five Sizes

Send for descriptive catalogue

Morrow Manufacturing Company
Elmira, N. Y.

EDGEMONT

FRICTION CLUTCHES



Extended Sleeves Cut-off Couplings, are made to stand the rough usage friction clutches are subject to.

That they have been adopted by 30 of the leading machinery manufacturers, should convince you that they are the simplest and most powerful clutches on the market.

Cut shows our extended sleeve type, which will drive wood or steel pulleys, gears, sprockets, etc. If you want to avoid clutch troubles, tell us your wants. We make them for all purposes.

Our catalog D for your card

The Edgemont Machine Co., Ft. of Mound Street, DAYTON, O.

THE JOHNSON FRICTION CLUTCH

For Machine Shop and Factory

The best Clutch manufactured for use as a part of Standard Machine Tools on Feed and Speed changes

Will last as long as the machine.

Send for our illustrated catalog, showing complete line of clutches

THE CARLYLE JOHNSON CO MANCHESTER CONN

JUNK

Men do not get the caps

Of Tucker's Positive Lock Compression Grease Cups

They Won't Jar Off

For Automobiles and all kinds of machinery having excessive vibration. Sample sent by mail on receipt of cash, check or money order.

Made in three sizes

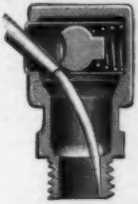
			Price
No. 000	¾ in.	⅜ in. pipe	$0.40
No. 00	1 in.	½ in. pipe	0.50
No. 0	1¼ in.	¾ in. pipe	0.60

PATENTED JANUARY 11, 1910

Tucker's Oil Hole Covers

No. 5 Style B

Self Closing



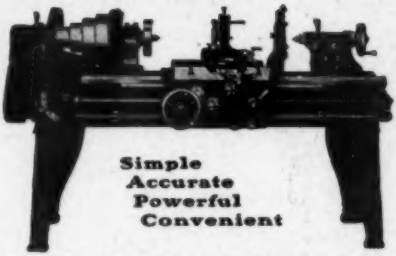
Style C, Self Closing

Style A

Send for Catalogue of full line for all kinds of machinery having oil holes

W. C. & F. C. Tucker, Hartford, Conn.

Standard Engine Lathes



Furnished with either standard cone or with 3-step cone double-back-geared, **carrying a wide belt,** with 18 spindle speeds and wide feed range.

GREAVES, KLUSMAN & CO.
Cincinnati, Ohio, U. S. A.

WHEN YOU INQUIRE

of advertisers herein, won't you kindly remember to say somewhere in your communication that the inquiry comes from Hitchcock's Machine Tool List? Advertisers are human; they like to know that the medium in which they spend their money is received and consulted by machinery users. Not being mind readers, they can only know this when you tell them, and if you neglect to tell them, the Tool List is deprived of credit for the service it has rendered.

Lumber For Machinery People

By specializing to supply the lumber requirements of machinery manufacturers, I can furnish

Crating Lumber Blocking and Boxes

in any quantity and dimension, to better advantage than your local dealer, at lowest prices.

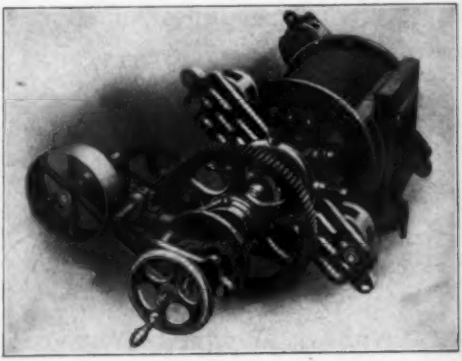
Let me figure on your present requirements as a trial order

EZRA RHODES

Wholesale Lumber, South Bend, Ind.

Portable Tools

When an engine or large machine is out of commission, the loss of time is often a greater expense than the cost of repairs. The Underwood special tools enable the work to be done with the machine in place, and ready to run as soon as the repairs are completed. This is often worth more than the tools cost.



Portable Bar Boring Cylinder

With Both Heads Off

This tool will bore all kinds of engines, steam hammers, pumps, air compressors, Corliss valves, etc., **in place.** Does work in any position and in very cramped places. Many times cylinders are rebored in place in less time than they could be removed from fixed position, leaving all steam connections and bolts intact. Made in several sizes, powerfully geared, and can be driven by power or hand.

Write for our comprehensive catalog or Portable Tools; they are standard

H. B. Underwood & Company

1022 Buttonwood St., Philadelphia, Pa.

Second-Hand Machinery.

Lists of second-hand machinery, either for sale or wanted, will be published under this heading at the rate of **40 cents a line**, across the page, each issue, with a minimum charge of **$4.00.** Sub-headings are counted as one line, but the name and address of advertiser are not included in the space charged for. Prices and full descriptions of the machines listed will be furnished by the parties offering them for sale. If you do not find what you require, use the slip inclosed with each book to make known your wants to the publisher.

FOR SALE BY

Fred. C. Dickow, 33 So. Desplaines St., Chicago, Ill.

PUNCH PRESSES.

No. 119 Crosby, inclinable.
No. 3 Bliss, straight legs.
No. 119 Crosby, inclinable.
No. 45 Crosby, inclined legs.
No. 119 Crosby, inclinable.
No. 45 Crosby, straight legs.
No. 119 Crosby, inclined legs.
No. 119 Crosby, inclinable.

MISCELLANEOUS.

Drill, 6 spindle.
Drill, 20 in., wheel fd.; sq. base.
Drill, 20 in., w. & l. fd., sq. base.
Drill, blacksmiths, 20 in.
Drill, 38 in. Wood-Light, sldg. hd.
Lathe, 11x5 Prentice Bros.
Lathes, speed, Lodge-Davis (2).
Lathe, speed, 12x5 American.
Lathe, 14x6 Lodge & Davis, Fox.
Lathes, American-Fox (3).
Punch and shear, Marvel.
Screw machine, ⅝ in. No. 1 Garvin.
Screw mche., 15-16 in. Warner & S.
Turret lathe, 16 in. Warner & S.
2x3 Goulds triplex water pump: Dia. and Std. water grinders; Nos. 1, 2, 3 and 4 grinders; columns, countershafts, bumper, forges.

FOR SALE BY

The Chicago House Wrecking Co., W. 35th and Iron Sts., Chicago.

NEW AND USED MACHINERY.

Boilers, 60 in. diam. x16 ft., 90 lbs., lap joint, double riveted, (4).
Boilers, 72 in. diam. x20 ft., 100 lbs., lap joint, quadruple riveted (7).
Boilers, 78 in. diam. x 20 ft., 115 lbs., lap joint, triple riveted, (6).
Boiler, internally fired, 40 h. p. Atlas.
Boring mill, 8 ft. Niles, single head.
Drill press, radial, 4½ ft. arm, Universal.
Drill press, radial, 4½ ft. arm, Gang pl.
Drill press, vertical, 30 in. Prentiss.
Drill press, vertical, 36 in. Prentiss.
Engines, vertical, 5x5, new, (6).
Engines, vertical, 7x7, new, (7).
Engines, vertical, 7x8, new, (6).
Engine, 14x36 Brown-Corliss, r. h.
Engine, 18x42 Allis-Corliss, left hand.
Engine, automatic center crank, 16x18 Atlas.
Engine, auto., 28x56 in. Buckeye.
Engine, slide valve, 18x24 Atlas, left hand.
Gasoline engine, 8 h. p. Bates & Edmunds, single cylinder, vertical, type.
Hoisting engine, 12x15 Lidgerwood, double drum.
Jaw crusher, 15x9, F. & C.
Locomotive, 36 in. gauge, 9x16 Baldwin.
Mortiser and boring machine, Greenlee, horizontal type.
Pump, duplex, 10x6x10 Worthington.
Pump, triplex, 6x8 Deming, belt dr.
Resaw, band, 44 in. McDonough, 3½ in. saw.
Road roller, 15 ton Kelly.
Traction engine, 25 h. p. Colean.

STEEL TANKS.

1000 gallon capacity (12).
1500 gallon capacity (22).
3000 gallon capacity (7).
3600 gallon capacity (13).
3800 gallon capacity (4).
4500 gallon capacity (42).
5000 gallon capacity (37).
6000 gallon capacity (150).

We have large machine shops, and every engine, boiler and machine is thoroughly overhauled and tested before leaving our plant. In addition we have structural iron, pipe, shafting, pulleys, corrugated roofing, steel and metal ceiling and siding, lumber, mill work, complete plumbing outfits for factories and public buildings, office and parlor furniture. Send for new 1000 page catalog No. 880. Free on request.

40 telephones, all Yards 1900.

SECOND-HAND MACHINERY

FOR SALE BY

Joseph T. Ryerson & Son, - 16th and Rockwell Sts., Chicago

POWER PUNCHES.

Item.

242 Hilles & J. No. 1, 20 in. throat; cap. $\frac{1}{2}$x$\frac{3}{4}$ in.; architectural jaw, belt drive.
75 Hilles & Jones No. 2, 36 in. throat; cap. 1x$\frac{3}{4}$ in.; flat jaw, belt drive.
287 Cleveland 90 in. multiple punch, 12 in. throat; capacity thirty 13-16 in. holes in $\frac{3}{4}$ in.; motor drive.
288 Whiting 48 in. stake riveter and punch; cap. $\frac{1}{2}$x$\frac{3}{4}$ in. & $\frac{3}{4}$ in. cold rivets.
244 Hilles & Jones No. 3, 60 in. stake riveter and punch; capacity $\frac{1}{2}$x5-16 in. and $\frac{3}{4}$ in. cold rivets; motor drive.
294 Kling No. 2 horizontal punch, 12 in. throat; cap. 1$\frac{1}{2}$x1; belt drive.

POWER SHEARS.

229 Long & Allstatter 48 in. gate shear, 6 in. gap, cap. 3-16 in.; belt drive.
291 Cleveland 10 ft. gate shear, 36 in. gap, capacity 3-16 in.; motor drive.
59 H. Pels & Co. Johns beam shear; cap. 12 in. 35-lb. beams; belt drive.
286 No. 2 Lennox rotary bevel shear, for $\frac{1}{2}$ in. plate; belt drive.

HYDRAULIC MACHINERY.

265 Bement-Miles 8$\frac{1}{2}$ ft. riveter, 75 tons pressure.
263 Morgan 10$\frac{1}{2}$ ft. riveter, 100 tons.
266 4 col. press, 175 tons, 8$\frac{1}{2}$x3 ft. between column; with dies.
267 Hori. punch, 12 in.; cap. 1x$\frac{3}{4}$ in.
268 Morgan 48in. punch, cap. 2x1 in.
269 Morgan 48 in. pch., cap. 2$\frac{1}{2}$x1 in.
273 Bement-Miles 10 ton riveter crane.
272 Morgan 10 ton riveter crane.
260 Morgan 8x14 accumulator.
258 Blake duplex steam pressure pump, 18$\frac{1}{2}$x3$\frac{1}{2}$x12 in.
262 Worthington duplex steam pressure pump, 18$\frac{1}{2}$x3$\frac{1}{2}$x10 in.

PLANERS.

158 Pond, 26x26x6, heavy pattern, 1 head; belt drive.
215 Gray, 36x36x10, 2 heads; arranged for motor.
243 Ohio, 36x36x13, 1 head; arranged for motor.
163 Sellers, 36x36x7, 1 head; belt d.
166 Bement, 36x36x7, 2 hds.; belt d.
167 Sellers, 42x42x6$\frac{1}{2}$, 2 hds.; belt d.
169 Sellers, 42x42x8$\frac{1}{2}$, 2 hds.; belt d.
177 Sellers, 48x48x8$\frac{1}{2}$, 2 hds.; belt d.
285 Niles 20 ft. plate planer; old style.

LATHES.

145 Flather, 14x6.
250 Flather, 16x6.
86 Lodge & Shipley, 16x8, q. c. g.
235 Hendey, 18x10, q. c. gear.
236 Hendey, 20x18, q. c. gear.
237 Hendey, 24x20, q. c. gear.

DRILLS.

195 Barr, 3 spindle, sensitive.
198 Sigourney, 4 spindle, sensitive.

SHAPERS.

183 Springfield, 15 in., single gd.
253 Steptoe, 14 in.
251 Smith & Mills, 16 in.

MILLING MACHINES.

201 No. 9 Garvin, table 7$\frac{1}{2}$x30 in., back geared.
204 Brown & Sharpe No. 12, plain, size 26x$\frac{1}{2}$x7$\frac{1}{2}$ in.

MISCELLANEOUS.

238 Bending and straightening machine, Cosgrove, capacity 15 in. beams.
257 Bending rolls, plate, 8 ft. 2 in. Badger; top roll 6 in., bottom rolls 5 in.; drop housing; hand and belt power.
212 Boring mill, 4x27x60 in., Beaman & Smith, horizontal.
177 Bulldozer, No. 5 Ajax; double geared, outside connected, belt drive; approximate weight, 19,000 lbs.
276 Concrete mixer; capacity $\frac{3}{4}$ cu. yd.; complete with engine and boiler.
240 Cornice brake, 8 ft. Geo. A. Ohl, capacity No. 18 gauge.
293 Cornice brake, Robinson, 8 ft. 2 in., between housings; capacity No. 20 gauge; hand power.
225 Cut-off saw, No. 3-B., Q. & C.; capacity 10 in. rounds or 20 in. I-beams, vertical; belt drive.
313 Pipe cutter, No. 5$\frac{1}{2}$ Merrill, capacity 2 in. pipe, belt drive.
208 Profiling machine, No. 2, Pratt & Whitney, working surface of table 12x15 in.; vertical movement of head, 3 in.
230 Riveter, boiler, Allen, pneumatic, portable 72 in. reach; cap. 1$\frac{1}{2}$ in. rivets.

SECOND-HAND MACHINERY

FOR SALE BY

C. C. Wormer Mach'ry Co., 94-96 W. Woodbridge St., Detroit, Mich.

SCREW MACHINES.

9 in. Garvin, plain head, wire feed.
10 in. Garvin, plain head, wire feed.
16 in. Garvin, f. g. head, wire feed.
No. 0 Brown & S., pl. hd., semi. auto.
No. 0 Pratt & W., pl. hd., wire feed.
No. 1 Pratt & W., pl. hd., wire feed.
No. 2 Pratt & W., pl. hd., wire feed.
No. 2 Bardons & O., pl. hd., wire feed.
No. 2 Pearson, plain head, wire feed.
No. 2½ Pratt & W., pl. hd., wire feed.
No. 3 Pratt & W., pl. hd. wire feed.
No. 140 Wells with double cut-off.

SENSITIVE DRILLS.

8 in. Stover, single spindle, bench.
10 in. Dwight-Slate, on column.
10 in. White, single spindle. bench.
12 in. Norton & J., single spindle.
12 in. Bement & D., 3 spindle on col.
13 in. Knecht, single spindle on col.
14 in. Gardan, 3 spindle on column.
14 in. Fox, 2 spindle, on column.
14 in. Foote-Burt, 4 spindle on col.
15 in. Kern, with tapping.
16 in. American, on column.
No. 1 Foote-Burt, 6 spindle.

TURRET LATHES.

10x44 Crescent, plain head.
11x36 Warner & S., plain head.
11x44 Crescent, plain head.
11x48 Bardons & O., plain head.
12x44 plain head.
12x46 Bardons & O., plain head.
15x60 Jones & Lo., plain head.
16x54 Warner & S., plain head.
16x60 Warner & S., automatic ck.
16x68 Bardons & O., f. g. hd.
16x68 Windsor, f. g. hd., pan bed.
18x6 Hendy, plain head.
20x7 Lodge & Davis, back geared.
16 in. Warner & S., with auto. turret.
18 in. Bardons & O., s. o. turret.
22 in. Gisholt, 3 in. spindle capacity.
24 in. Gisholt, 6 in. spindle capacity.
24 in. Davis, friction back geared.

BRASS WORKERS' MACHINERY.

13x5 ft. American s. o. lathe.
15 in. American sq. arbor Fox lathe.
Sawyer magnetic separator.
No. 1 American valve miller.
Adams iron tumbling barrel.
14x5 ft. American dovetail s. o. lathe.
16x5 ft. Bridgeport universal Fox.
Foot power sprue cutter.
W. & S. 2 spindle valve miller.
11x4 ft. speed lathe.

PLANERS.

20x19x4½ ft. New Haven.
22x22x5 ft. Pond.
24x24x5 ft. New Heven.
24x24x7 ft. New Haven.
24x26x6 ft. single head.
26x26x6 ft. Pond.
28x28x6 ft. Pond.
30x30x14 ft. Miles, 2 heads.
32x32x8 ft. Pond.
32x32x10 ft. Pond, 2 heads.
36x36x12 ft. Fitchburg.
48x48x12 ft. Pond, 3 heads.
14 ft. Sellars-Plate.
16 Niles, open ends.

PIPE MACHINES.

No. 200 Oster, ½ to 2 in.
No. 2 Peerless, ½ to 2 in.
No. 11 Jarecki 1½ to 6 in.
No. 88 Forbes, 4 to 6 in.
No. 1 Apex, ½ to 2 in. (2).
Armstrong, power 1 to 4 in.
No. 110 Forbes, 2½ to 6 in.
No. 9½ Merrill, 2½ to 8 in., 2½ to 4 in. reversing back geared.

PRESSES.

No. 0 Cady, open side, 1 in. stroke.
No. 1-P Rudolph & K., o. b. i.
No. 3 Greenerd arbor.
No. 3½ Greenerd arbor.
No. 5 Stiles, 10½ in. throat.
No. 18 Holden, o. b. i.
No. 31 Toledo, 1½ in. throat.
No. 51 Ferracute, 5 in. throat.
No. 52 Toledo, 2 in. stroke.
No. 74 Ferracute, 4 in. stroke.

GRINDERS.

No. 3 Brown & S. universal.
No. 2 Brown & S. universal.
LeBlond universal.
Gisholt water tool.
Mueller center.
No. 2 Allen emery.
36 in. Diamond roll, 7½ in. swing.
Cincinnati plain cutter & reamer.
Pratt & Whitney cutter.
16 in. Valley City wet tool.
Hisey-Wolf "A" electric.
No. 3 Diamond, double end.

HACK AND COLD SAWS.

No. 11 Higley cold saw.
5 in. capacity, West Haven.
5½ in. Millers-Falls.
4½ in. Quincy-M. hack saw.
No. 1½ Paragon, 6 in. capacity.
4½ in. Victor.

SECOND-HAND MACHINERY

FOR SALE BY

The H. A. Stocker Machinery Co., 566-72 W. Randolph St., Chicago
610 Merrill Building, Milwaukee, Wis.

BORING MILLS.

10-16 ft. Niles extension boring and turning mill, No. 2 swivel heads on rail, extension head, set table chuck jaws, adjusted plates and other attachments; equipped with motor drive, Western Electric motors 220 v., d. c., or will sell with countershaft drive if desired.
84 in. Betts boring and turning mill, 2 swivel heads on rail, central boring head. c. s. drive.
42 in. Bullard boring and turning mill, single, swivel turret head, screw cutting attachment, 2 jaw chuck table, c. s. drive.
38 in. Rogers Machine Co. boring and turning mill, 2 swivel heads, on rail, pl. table, set of chuck jaws.
No. 0 Niles horizontal boring, drilling and milling machine, power cross feed to aux. table, practically new.

PLANERS.

72x72x14 Niles-B.-P., 2 heads on rail, 2 side heads. Side heads fitted with taper attachments, c. s. drive, splendid condition, immediate delivery.
36x36x12 G. A. Gray & Co., 2 heads on cross rail, power elev. device, spur gear drive, condition good.
32x32x10 G. A. Gray & Co., 2 heads on cross rail, power elev. device, spur gear drive, condition good.
30x30x10 Flather, 2 heads on rail, 1 side head on front right hand housing, 4 speed drive for high speed work, belt drive, or easily arranged for motor.

MILLING MACHINES.

No. 5 Kempsmith, plain, double back gear, all automatic feeds.
No. 3 Owen, pl., dbl. b. g., pract. new.
No. 2 Cincinnati, pl., b. g., pract. new.
No. 24 Oesterlein, plain, back gear, used very little.
No. 1 A Milwaukee, plain, back gear, single belt drive.
No. 12 Garvin, plain, not b. g.
No. 3 Fox, hand and power, pl. hd.
No. 10 Pratt & Whitney, hand.
No. 6 Whitney, hand, equal to new.
No. 4 B. & S. univ., old type, cheap.
No. 1 Cincinnati, universal, complete, fine condition.

RADIAL DRILLS.

6 ft. Bickford, gear box drive.
5 ft. Bickford, gear box drive.
4 ft. Bickford, cone drive.
3 ft. Bickford, cone drive.
4 ft. Bickford, univ., cone drive.
5 ft. Western, univ., cone drive

These are good. Investigate them.

MULTIPLE DRILLS.

14 spindle Baush, capacity up to 1½ in. holes.
6 spindles, Western, capacity up to ⅝ in. holes, 3 extra spindles.
12 spindle Pratt & Whitney, capacity up to ½ in., equal to new.
4 spindle Henry & Wright, high speed, equal to new.

UPRIGHT DRILLS.

No. 24 Foote-Burt, heavy, fine order.
34 in. Barnes, s. h., b. g., p. f. & a. s.
30 in. Barnes, s. h., b. g., p. f. & a. s.
32 in. Aurora, s. h., b. g., p. f. & a. s.
28 in. Snyder, s. h., b. g., p. f. & a. s.
25 in. Prentice, s. h., b. g., p. f. & a. s.

Numerous smaller drills in stock.

GRINDERS.

No. 1 Landis, universal.
No. 2 Brown & Sharp, universal.
No. 2 Browne & Sharpe, surface.
10x72 in. Landis, plain.
No. 24 Landis, crank shaft.

NOTCHING PRESSES.

No. C 82 Ferracute.
No. C 94 Ferracute.

DOUBLE CRANK PRESSES.

No. 96½ Bliss, geared, two extra bolster plates.

BULLDOZER.

No. 1 Williams & White, practically new.

LATHES.

Sizes ranging from 9 in. swing to 50 in. swing. Various lengths of bed. Let us know your requirements.

PIPE MACHINES.

6 in. Saunders.
4 in. Stoever.
4 in. Saunders.
4 in. Bignall & Keeler P. D. Q.
3 in. Bignall & Keeler Peerless.
Rollen pipe cutting-off machine.

SECOND-HAND MACHINERY

FOR SALE BY

J. J. McCabe, - - 30 Church St., New York City.

RADIAL DRILLS.

6 ft. plain, heavy pattern, Bausch.
5½ ft. plain with table, Sellers.
5½ ft. full universal, swivel arm & table, Bement.
4½ ft. full univ., swivel a. & tbl., Niles
5 ft. pl. heavy, good as new, Prentice.
4 ft. half univ., swivel a. pl.tbl., Niles.
3 ft. plain, with table, Bickford.

UPRIGHT BORING AND TURNING MILLS.

10 ft. 2 heads, Niles-Bement-Pond
8 ft. 2 heads, Niles Tool Works.
7 ft. 1 head, Bement.
5 ft. 2 heads, Niles.
4 ft. 2 heads, Colburn.
3 ft. 2 heads, Niles Tool Works.
3 ft. Turret hd. threading attachment, Bullard.

HORIZONTAL BORING AND DRILLING MACHINES.

Niles Tool Works horizontal floor boring, drilling and tapping machine, double column with bed-plate and all attachments; practically new.

Lucas Machine Tool Co.'s (Cleveland) No. 2 "Precision" horizontal boring, drilling and milling machine, 3½ in. spindle, good as new.

Bement No. 2 horiz. boring and drilling machine, 2½ in. spindle.

MILLING MACHINES.

36 in. x 11 ft. planer type, slab, Newton.
30 in. x 14 ft. planer type, slab. Bement.
22 in. x 8 ft. planer type, slab, Ingersoll.
Special milling machine, two milling-heads, 8 and 14 in. American.

PLANERS.

72 in. x 72 in. x 26 ft. spiral geared, 4 heads, Sellers.
54 in. x 54 in. x 16 ft. spiral geared, 4 heads, Sellers.
50 in. x 50 in. x 16 ft. spur geared, 2 heads, Bement.
50 in. x 30 in. x 14 ft. spiral geared, 2 heads, Gray Co.
40 in. x 40 in. x 18 ft. spur geared, 2 heads, Niles Tool Works.
37 in. x 36 in. x 11 ft. spur geared, 3 heads, Niles Tool Works.
36 in. x 36 in. x 12 ft. spur geared, 2 heads, extra heavy, Gray.
36 in. x 36 in. x 10 ft. spur geared, 2 heads, Sellers.
36 in. x 36 in. x 10 ft. spur geared, 2 heads, extra heavy, Pond.
36 in. x 36 in. x 8 ft. spur geared, 2 heads, Bement.
36 in. x 36 in. x 8 ft. spur geared, 1 head, extra heavy, Pond.
32 in. x 32 in. x 10 ft. spur geared, 2 heads, Pond.

LATHES.

102 in. x 30 ft. triple geared heavy, Niles-Bement-Pond.
76 in. double head driving wheel lathe, Niles-Bement-Pond Co.
72 in. x 18 ft. triple geared, blocks 100 in., Fitchburg.
64 in. x 36 ft. blocked from 54 in., Bement.
54 in. x 21 ft. heavy, Fitchburg.
52 in. x 28 ft. 10 in. driving belt, Putnam.
50 in. x 32 ft. for severest duty, Putnam.
48 in. x 24 ft. triple geared, blocks 66 in., Fitchburg.
48-26 in. 18 ft. triple geared, double spindle, McCabe.
38 in. x 16 ft. back geared, heavy, Putnam.
37 in. x 20 ft. blocks 43 in., Pond.
36 in. x 26 ft. back geared, Fay & Scott.
34 in. x 12 ft., Fitchburg.
28 in. x 14 ft. quick change, 3 step cone, Sch. & Boye.

TURRET LATHES.

32-50 in. swing, gap bed, with extra carriage, Gisholt.
24 in. swing, standard with turret on carriage, Gisholt.
32 in. swing, standard Gisholt type with chucks and tools, American.

MISCELLANEOUS.

Axle and centering machine, double, 10 in. Bement.
Bending rolls, 6 ft. Hilles & J., heavy.
Bending rolls, 10 ft. No. 2 Hilles & Jones, drop housing.
Grinder, car wheel, double head, for both wheels at one time.
Hammer, steam, 4,000 lb. Bement, complete with full equipment.
Punch and shear, 9 in. Hilles & Jones, with spacing table and rack.
Punch and shear, single, 24 in. Hilles & Jones.
Riveting machine, hyd., 10 ft. Chambersburg, with accumulator, pump, etc.
Screw machine, 2½ in. Pratt & Whitney, wire feed, all atts.
Slotter, 12 in. Sellers, all automatic feeds to table.
Complete list No. 140 now issued. Write us.

SECOND-HAND MACHINERY

FOR SALE BY

Buffalo Tool & Supply Co., 15 W. Swan St., Buffalo, New York.

SHAPERS.

16 in. Lowell, traverse head, fine condition, complete, $125.

10 in., with c. s., good order, $90.
14 in. crank, c. s., good order, $125.

LATHES.

14x7 engine, screw ctg., c. s., $75.
18x8 engine, screw ctg., c. s., $90.
18x7 engine, screw ctg., c. s., $90.

18x6 engine, screw ctg., c. s., $85.
20x12 engine, screw ctg., c. s., $125.

DRILLS.

Drill press, 18 in. round, adj. table, hd. fd., belt drive, base 24x40, $40.
Drill press, 18 in. round, adj. tbl., hd. feed, belt drive, base 24x40, $40.

66 in. radial, bk. gr., pr. fd., rev. hd., swing top tbl., good order, $350.
60 in. Alfred Box, radial, plain belt drive, fine order, $250.

Drill presses, light, sensitive, several, $25 each.

PLANERS.

Boiler plate, 15 ft. trav. hd., 2 cutters, $300.
26x26x8, 1 head on cr. rail, belt drive, $250.
54x54x18, 2 hds. on cr. rail, 1 sd. head, all fds., A 1 condition, $1,200.

24x24x6, dbl. hds., belt drive, 34 in. wide, 10 ft. long, good, $300.

MISCELLANEOUS.

Punch and shear, Long & A., cap. 1½ in. hole in 1 in. plate, shear 1x6, $500.
Hammer, helve, large, 12,000 lb., $200.

Bolt cutter, 1½ in. National, sgl. hd., feed c. s., good as new, $100.
Hammer, helve, large, 6,000 lbs. $100.

FOR SALE BY

A. D. White Machinery Co., . 108-114 N. Jefferson St., Chicago.

LATHES.

9x42 in. Shepard, hollow spindle.
14x8 Putnam, r. & f., cheap.
16x6 Shellenbach, comp. rest & h. s.
16x8 Davis, compound rest, hollow spindle.

18x8 LeBlond c. r., h. s.
20x12 LeBlond c. r., h. s.
20x10 Flather, comp. rest & h. s
28x25 Putnam, compound rest.
30x10 Powell, compound rest.

SCREW MACHINES AND TURRET LATHES.

No. 00 Brown & Sharpe, automatic turret forming (2).
No. 3 16 in. Pearson screw machine.
⅝ in. Cleveland, automatic.
⅞ in. Pratt & Whitney, automatic (5)

⅝ in. Cleveland, automatic.
2 in. American, a. c. & w. f.
2 in. Cleveland, automatic.
18 in. Davis & Egan, 2½ in. h. s.
16 in. Windsor, raised to 24 in.

DRILLS.

6 spindle Fox, sensitive.
20 in. Blaisdell, rnd. b., pl. l.
21 in. Davis & Egan sq. b., w. & l.

28 in. Barnes, power feed, b. g.
3 ft. Bickford plain radial.
4 ft. Universal radial.

MILLING MACHINES AND GEAR CUTTERS.

No. 2 Universal, vertical attachment.
No. 2 Garvin, Lincoln.

16 in. Gleason bevel gear planer.
36 in. Fellows gear shaper.

PLANERS AND SHAPERS.

16 in. Smith & Mills, geared.
24x24x6 Putnam planer.
24x6 Pond planer.

25x6 Sellers spiral dr. planer.
30x30x8 Powell.
35x35x12 Niles 2 heads.

GAS ENGINE.

We offer for quick sale one 20 h. p. Columbus Gas Engine, with muffler. Has been used but a very short time and is in excellent condition, practically as good as new. Spot cash, $250. If you need an engine, get in on this quick!

MISCELLANEOUS.

Hammer, drop, 300 lb. Norton.
Hammer, steam, double frame, 650 lb. Morgan & Williams.

Hammer, power, 50 lb. Fairbanks.
Keyseater, 16 in. Morton.
Press, No. 75½ Bliss, geared.

Our latest "Yellow Book" is ready. drop us a postal card.

You can have it regularly if you'll

SECOND-HAND MACHINERY

FOR SALE BY

The E. L. Essley Mchy Co., 555-557 Washington Blvd., Chicago, Ill.

DRILLS.

2 spindle Mechanics 20 in. gang, plain lever feeds, not b. g. nor p. f.
4 spindle No. 3 Garvin, multiple.
22 in. Bickford, sl. hd., overhauled.
24 in. Mechanics, sliding head, complete, b. g., p. f., nearly new.
Baker Bros. upright high speed drill presses, complete, nearly new, (2).
28 in. Moline, sliding head, upright, nearly new.
28 in. Hamilton, sliding head, back geared, power feed.

BORING MILLS.

37 in. Streit pulley boring machine.
37 in. Baush & H., 2 heads, pl. table.
42 in. Colburn, rebuilt by factory, 1 swivel hd., 1 turret hd., plain table.

ENGINE LATHES.

14x7 Blaisdell, taper attachment.
15x6 Walcott, back geared, rebuilt.
16x6 Muller, hollow spindle, p. c. f.
16x8 LeBlond, pl. rest, 1⅛ in. hole.
17x8 Perkins, rebuilt.
18x8 Lodge & Davis, compound rest.
20x6 Flather, overhauled, fine cond.
21x12 Blaisdell, with 16 in. 4-j. chuck.
24x12 Pond, b. g., fine condition.
32x18 New Haven, compound rest.
33x26 New Haven, fine condition.
36x14 Pratt & Whitney, solid spndl.
36x25 New Haven, c. r., fine order.

MISCELLANEOUS LATHES.

15x5 B. & O., Monitor, back geared.
No. 21 Garvin, plain head, Monitor, 13-16 in. hollow spindle.
No. 2 12 in. Foster plain hd. Monitor.
14 in. Monitor, plain head, F. K.
24 in. Davis chucking, set over turret.
13 in. Gisholt, standard turret.
28 in. Gisholt, standard turret, comp.
*Pearson b. g. hub machine, like turret lathe, 2⅞ in. h. s.
30 in. Henl pulley lathe, for boring and turning pulleys.
60 in. Niles pulley turning lathe.

TINNERS' TOOLS.

Square shears, 22 to 42 in. wide, for light and heavy work, new (6).
Bar folder, 21 in. Keystone.
Burr, Superior, small.
Circle shear, Wough No. 2.
Brake, No. 2 C, Dries & K., 7 ft., 14 ga.
Crimper, Niagara, geared.
Folder, 42 in. Wright.
Forming rolls, oval, 30 in. O'Brien.
Groover, 20 in., Stow.
Setting down machine, Niagara.
Turner, Superior, small.
Wiring machine, Superior.

MISCELLANEOUS.

Air compressor, 13x8x12 in. Curtis, belt driven, cap. 161 cubic ft. per minute.
Arbor press, No. 1 Barnes.
Blower, pres. No. 10 Sturtevant, steel.
Bolt cutter, 1⅛ in. Adams, single Landis head.
Bolt cutter, 2 in. Bement, single.
Bolt pointer, 1 in. Adams.
Boring mches., 60 in. Niles pulley.
Boring machine, No. 2 Binnsse, horizontal 2½ in. bar.
Buffing lathe, 2 h. p. motor drive, 110 volts, d. c.
Chuck, 48 in. 3 j., comb. for boring mill.
Gear cutter, 18 in. Becker, spur gears only, used 3 months.
Grinder, No. 1 Diamond, double wheel face.
Grinder, 20x3 in. Diamond, single wheel, wet.
Grinder, 10x48 in. Landis, plain, fine condition.
Miller, vertical, No. 2 Becker, with rotary, practically new.
Hammer, 125 lb. Williams, w. drop.
Motor, 10 h. p. Crocker-Wheeler 230 v., d. c., starting box & switch.
Miller, hand, No. 2 Fox.
Miller, 20x66x17 in. Osterlien plain.
Pipe mche., 4 in. Borden, complete.
Pipe machine, 45½-6 in. Merrill, hand & power.
Planer, 26x26x6 New Haven, 1 head.
Profiler, Ames, 2 spindle, fine order.
Punch press, No. 4 Kohler, open back, inc.
Punch & shear, 11 in. throat, Hercules, single, 1½x⅜ in. cap.
Punch & shear, No. 2 Long & A., 9 in. throat, cuts 1½ in. rd.
Rivet spinner, ⅝ in. National.
Riveter, 30 in. throat, Shuster.
Saws, cold, 4½ in. No. 4 Keystone.
Saws, cold, No. 14 Higley.
Screw machine, 7-16 in. Cleveland automatic, rebuilt (4).
Screw machine, 2 in. Standard Cleveland automatic, 5 hole turret.
Threading mche., roll, Rudolphi & K.

A partial list of used machinery for quick delivery. Write for our complete list of new and used machinery, and state your wants; we may have it.

SECOND-HAND MACHINERY

FOR SALE BY

The Randle Machinery Co., . 1739 Powers St., Cincinnati, O.

BOILERS.
Horiz. tubular, from 6 to 150 h. p.
Fire box, from 8 to 80 h. p.
Vertical, from 3 to 50 h. p.

ENGINES.
Corliss, from 50 to 350 h. p.
Automatic, from 15 to 180 h. p.
Throttling, from 5 to 150 h. p.

PULLEY LATHE.
60 in. Stevens.

BLOWERS.
Nos. 2 and 4 Roots.

PIPE THREADER.
4 in. Camden.

PLANER.
42x16 Bement-Daugherty.

AIR COMPRESSOR
8x6x9 locomotive type.

MISCELLANEOUS.
Heaters, tanks, pumps, exhausters, blowers, saw mill and general machinery. Write for list. Also a full assortment of new machinery.
Sole manufacturers of the celebrated "Leader" Injectors and Jet Pumps. Send for circulars.

FOR SALE BY

Frank Toomey, Inc., - 127 N. Third St., Philadelphia, Pa.

MILLING MACHINES.
No. 1 Brown & Sharpe, universal (2).
36 in. x12 ft. heavy slab miller.
No. 1½ Hendey, plain.

HAMMERS AND RADIAL DRILLS.
1500 lb. Bement & Miles double frame hammer.
800 lb. Bement M. & Co., sgle frame.
36 in. Morris radial drill.
48 in. Gang radial drill (2).

LATHES.
12x6 Hendey, tool room, full equipment.
14x5 Hendey, tool room, full equipment (5).
16x6 Pratt & W., taper attachn ent.
18x8 Rahn-Carpenter.
20x10 Schumacher & B., blocked to 24 in., with turret attachment.
24x10 modern, blocked to 34 in.

MISCELLANEOUS.
Boring mill, vertical, 10 ft. Betts.
Planer, 30x30x6 Bement.
Planer, 30x30x8 Flather, two heads.
Shaper, 16 in. Queen City.
Shaper, 16 in. Steptoe.
Shaper, 20 in. Smith & Mills.
Shaper, 26 in. Gould & Eberhardt.

FOR SALE BY
McCabe Machine Co.,

P. A. McCabe, Pres., - 95 Liberty St., New York, N. Y.

Boring mill, upright, 72 in. Betts double head, good.
Cylinder boring machine, 3½ in. bar, Barrett, near new.
Flat turret lathe, 3x36 in. Jones & Lamson, near new.
Gear cutter, 30 in. Gould & Eberhardt, automatic, good.
Grinder, universal, 20x72 in. Landis, large size, near new.
Grinder, plain, 10x40 in. Landis, good.
Lathe, tool room, 15 in. Flather, quick change, taper attachment, draw-in collet, relieving attachment, near new.
Lathe, 45x16 ft. New Haven, triple geared, near new.
Lathe, 20x10 ft. American, quick change device, good.
Miller, universal, 32x12x20 in. Becker power feeds, near new.
Miller, vertical, 42x16x9 in. Becker power feeds, near new.
Turret lathe, universal, 20x8 ft. Fay & Scott, near new.
Turret lathe, 18 in. Dreses, with 2½ in. hole, near new.
Planer, open side, 36x10 ft. Detrick & Harvey, near new.
Radial drill, shaper, keyseater, cutter, reamer and twist dril grinders.
The above being the entire equipment of a Gas Engine Shop.
"Near new" indicates condition practically good as ever.
"Good" indicates condition not quite near new.

FOR SALE BY

Marshall & Huschart Machinery Company,

17 S. Jefferson St., Chicago. 334 N. Capitol Ave., Indianapolis.
908 N. Second St., St. Louis. 309 Railway Exc., Milwaukee.

BOLT CUTTERS.

1 in. National, single head.
1½ in. Economic, single head.
1 in. Acme, dbl., 1½ in. sgl., hd.
1½ in. Webster & Perks, dbl. head.

BORING MILLS.

No. 1 Pawling & Harnischfeger, horizontal.
42 in. Bullard, single head, 3-jaw combination chuck.
10-16 ft. Niles extension, two regular heads, one extension head.
14-20 ft. Niles extension, two regular heads.

DRILLS.

14 in. Rockford, power feed.
23 in. Barnes, sta. hd., b. g. p. f.
25 in. Barnes, back geared, power feed, square oil groove table.
20 in. 4 spindle Rockford gang, wheel and lever feed only.
20 in. 4 sp. Rockford gang, w. & l. f., b. g., 2 end spdls., tapping attach.
24 in. Barnes.
20 in. W. F. & John Barnes, stationary head, wheel and lever.
2 spindle Baker Bros. heavy pattern.
4 spindle Foote-Burt.
3 ft. Economic, radial, plain table, tapping attachment.
4 ft. Bickford, full universal, radial, cone drive, plain table, tapping att.
3 spindle Reddington, sensitive.

GEAR CUTTERS.

36 in. Whiton, spur gears only, practically new.
36 in. Whiton, spurs and bevel.
40 in. Gould & E., spur gears only.

GRINDERS.

Nos. 2 & 3 B. & S., cutter grinders.
Springfield water tool.
American twist drill.
10x20 in. Landis universal.
No. 4 Landis universal, equal to new.
10x20 in. Landis plain.
12x32 in. Landis plain.
No. 50 Saxon, cylinder.

HAMMERS.

100 lb. Mayer "Little Giant" trip, new.
600 lb. Bement, steam.
800 lb. Monighan, steam, single frame.

LATHES.

15x6 Sebastian, c. r., h. s.
16x8 Flather, p. r., h. s.
16x8 Von Wyck, 3 step cone, dbl. b. g., c. r., hol. sp.
18x6 Lodge & Davis, p. r., h. s.
18x8 New Haven, r. & f. rest.
20x8 LeBlond, c. r., h. s.
20x8 Lodge & S., 3 step cone, fr. hd., c. r., tur. tool post, qk. ch. gr., pr. fd. to tur. on shears.
24x12 Lodge & S., pat. hd., c. r., h. s., taper, like new.
28x14 Schumacher & B., c. r., h. s.
30x14 Lodge & S., raised in sand 42 in., c. r., h. s., qk. ch. gr.
36x42x18 LeBlond, comp. rest.
42x61x16 Ames, tr. gr., c. r., pwr. ang. fd.
48x22 Fifield, c. r., triple gr.

TURRET LATHES.

2x24 in. Jones & Lamson, flat turret.
24 in. Pond turret.
25 in. Gisholt turret.
30 in. Universal Radial Drill Co. chucking lathe.
42 in. New Haven turret.

MILLING MACHINES.

No. 3-B Owen, plain.
No. 3 Becker-Brainard, plain.
No. 3 Cincinnati, plain.
Keystone slab miller, 15 in. x8 ft.
Hillis & Jones, vertical miller.

PLANERS.

16x16x42 in. Hendey.
24x24x6 Ohio, one head.
24x24x7 New Haven, one head.
27x27x8 Pittsburg, one head.
30x30x12 Whitcomb, one head.
36x36x10 Pratt & Whitney, one head.

SHAPERS.

20 in. Kelly crank shaper.
24 in. Walter Bros.
26 in. Walcott, shifting belt.

MISCELLANEOUS.

Cut-off machine, 5 in. Hulburt & R.
Keyseaters, Davis & Morton.
Keyseater, No. 00 Baker.
Notching press, 36 in. Ferracute.
Pipe machine, 6 in. Curtis.
Screw machine, ⅞ in. Cleveland auto.
Slotter, 10 in. Putnam, circular table.
Squaring shear, No. 2 Queen City.

The above is only a partial list of the tools in stock. Send for complete list. Also a large stock of new machines. See our demonstrating room.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

210-212 Washington Ave. . . . St. Louis, Mo.

LATHES.

16x6 Blaisdell.
16x10 Mueller.
20x10 Lodge & Davis.
50x16 New Haven, triple geared.

DRILLS.

22 in. sliding head.
24 in. Cincinnati, with tapping att.
28 in. Barnes.
30 in. Lodge & Davis.
5 ft. plain radial.
6 spindle Quint.

PLANERS AND SHAPERS.

20 in. Gould & Eberhardt.
30x30x8 Whitcomb.
30x30x8 Flather.
36x36x12 New Haven.

PUNCHES AND SHEARS.

No. 6 Queen City, 7 in. throat, capacity ⅞ in. in ⅜ in.
8 in. throat, dbl. end, cap. ⅜ in. in ⅜ in.
No. 5 Long & Alstatter, 18 in. throat, capacity ⅝ in. in ⅜ in.
48 throat splitting shear, large & h.

AIR COMPRESSORS.

6x6x6 Clayton.
12x12x12 Smith-Vaile
22x24½x24 Ingersoll.
20x20x13½x24 Norwalk.

MISCELLANEOUS.

Bend, rolls, 8 ft., drop end, 7 in. dia.
Bending rolls, 11 ft., drop end, Wickes.
Bolt cutter, 3 in.
Bolt header, 1 in.
Cold saw, No. 2 Newton.
Column facing lathe, double head.
Hammer, 50 lb. Yeakley.
Hammer, 90 lb. Justice.
Keyway cutter, No. 6 Morton.
Pipe machine, 6 in. Bignall & Keeler.
Pipe machine, 12 in. Bignall & Keeler.
Press, No. C-2 Ferracute.

FOR SALE BY

Don M. Osborne, . 719 St. Clair Ave., N. E., Cleveland, Ohio

HAMMERS.

500 lb. Bement, steam, single frame.
2,000 lb. Bement, steam, dbl. fr. $750
5,000 lb. drop, friction board, Toledo, for sheet metal work.

LATHES

18 in. x6 ft. Lodge & Davis, compound rest & taper.
22 in. American turret lathe, 4⅝ in. hole thru spindle, with pump, scroll chuck and Reeves variable speed countershaft.
25 in. x 10 ft. LeBlond heavy turret lathe, with power feed turret on shears, three step cone, double back geared quick change, 24 in chuck, heavy carriage with compound rests.
30 in. x 31 ft. Ohl & Co., triple geared, 25 ft. between centers, comp, rests.
42 in. x16 ft. Crane, compound rest, $400.
48 in. x 24 ft. Michel, triple back geared, compound rest, 18 ft. centers.
60 in. x 42½ ft Hughes & Phillips, tr. gd., c. r., 33 ft. between centers.
60 in. x 45 ft. Roach, triple geared, 35½ between centers, compound rest.
66 in. x 35 ft. Hughes & Phillips, triple geared, 26 ft. centers, 48 in. raised to 66 in.
64 in. x 60 ft. Thomas Shanks & Co., Glasgow, double lathe, 50 ft. between centers; one end swings 64 in., other 50 in.; 2 head stocks, 2 tail stocks and 2 carriages; triple back geared at both ends; one carriage has screw feed full length of bed, the other has double tool post and feeds half length of bed; will sell cheap.

PLANERS.

48x48x10 Niles, 2 heads, par. drive, fine condition.
60x60x18 old style, good order, cheap.
96x96x20 Betts, single head, good order, cheap.

SLOTTER.

Slotter, 24 in. Niles, actual stroke of bar 60 in., for outside work; excellent condition, price reasonable.

MISCELLANEOUS.

Bolt cutter, Acme, class A., 1½ in. capacity.
Tool grinder, universal, Barr, good.

If you have used machine tools for sale or exchange, advise me.

SECOND-HAND MACHINERY

FOR SALE BY

Prentiss Tool & Supply Co., New York, Boston, Buffalo, Syracuse.

LATHES.

14x5 Fay & Scott, rise & fall.
14x6 Lodge & Shipley, patent head.
16x6 Draper, compound rest, power cross feed.
16x8 Prentice Bros., compound rest.
18x6 Flather, compound rest, power cross feed, taper.
18x8 Hendey, plain rest, power cross feed.
18x10 Perkins, compound rest, power cross feed.
20x8 Fay & Scott, compound rest, power cross feed.
22x12 Gleason, compound rest, power cross feed.
24x12 Fifield, compound rest, power cross feed.
26x14 Perkins, compound rest, power cross feed.
27x16 Fay & Scott, compound rest, power cross feed.
28x10 Gleason, compound rest.
27x12 Pratt & Whitney, plain rest.
30x10 Putnam, compound rest, power cross feed.
32x17 Bement, triple geared, compound rest, power cross feed.
36x16 Reed, compound rest, power cross feed.
32x17 Bement triple geared, compound rest.
37x18 Sellers, compound rest, power cross feed.
38x14 New Haven, compound rest, power cross feed.
38x20 Fay & Scott, compound rest, power cross feed.
40x18 Newark, triple geared.
46x38 Fitchburg, triple geared.
84x20 compound rest, power cross feed.
103x35 Bement, triple geared.
16 in. x 10 ft. automatic threading lathe.
60 in. Stevens pulley lathe.

MILLERS.

No. 4 Brown & Sharpe, plain.
No. 24 Brown & Sharpe, plain.
No. 4 Burke, bench.
2 spindle American valve miller.
No. 3 Cincinnati, plain.
No. 1½ Hendey, plain, back geared.
No. 4 Garvin, manufacturers type.
No. 2 P. & W., Lincoln pattern.
No. 22 Kempsmith, universal.
No. 2 Garvin, hand.
28x20x6 P. & W., slab miller.
No. 2 G. S. Hendey, plain.

DRILLS.

Foote-Burt, high speed.
Baker Bros. high speed.
28 in. New Haven, sliding head.
60 in. Bickford, stationary head.
5 ft. Bickford, universal radial.
5½ ft. Niles, universal radial.
No. 1 Barnes horizontal.
10 spindle Gardam, adjustable.

SHAPERS.

14x16 in. Gould & Eberhardt, crank.
15 in. Hendey, friction.
18 in. Putnam, friction.
20 in. Hendey, friction.
26 in. Lodge & Davis, shifting belt.
28 in. Cincinnati, geared.

GEAR CUTTERS.

12 in. Gould & Eberhardt, hand.
30 in. Gould & Eberhardt, auto.

AUTOMATIC SCREW MACHINES.

¾ in. No. 52 National-Acme.
¾ in. Pratt & Whitney.

PLANERS.

22x22x4 Powell, 1 head.
24x24x6 Wilson, 1 head.
24x24x7 Putnam.
30x30x6 Pond, 1 head.
30x30x7 Gray, 1 head.
32x32x8 Pease, 1 head.
33x33x8 Betts, 1 head.
48x42x8 Farrell, 1 head.
48x48x15 Pond, three heads.
15 ft. plate planer.

HAMMERS.

50 lb. Bradley, compact.
600 lb. Erie, steam.

PIPE MACHINES.

2 in. Bignall & Keeler.
3 in. Jarecki.

MISCELLANEOUS.

Boring mill 10 in. Pond.
Cold saw, 24 in. Newton.
Engine, gas, 8 h. p., Fairbanks.
Engine, steam, 8x10 in. Ide.
Gear cutter, 60 in. x 12 ft. Gould & Eberhardt.
Grinder, cylinder, No. 60 Heald.
Oil separator, No. 1 Springfield.
Profiler, 1 spindle, Garvin.
Slotter, 13 in. Bement.
Slotter, 16 in. Bement, crank.

SECOND-HAND MACHINERY

FOR SALE BY

International Watch Co., Ocean Ave. & Ludlow St., Jersey City, N. J.

Machinery and tools—retiring from business.
List on application. E. Bunzl, Treas., 65 Duane St., N. Y. City.
Sloan & Chase wheel cutters, gear cutters, pinion cutters, staff lathes.
Buffing plant—buffing lathes, Stillwell No. 6 blower.
Hartford automatic No. 000 screw machines.
Hartford automatic Stehli screw machines.
Hartford automatic stud and pin machines.
Case lathes, bench lathes, spring lathes.
Sensitive drill presses.
Also other machinery too numerous to mention.

FOR SALE BY

Wickes Brothers, Claremont & Mallory Ave., Jersey City, N. J.

AIR COMPRESSORS.

22x24½x24 Ingersoll Sargeant, steam, capacity 2375 cu. ft.
20x20x30 Rand Sullivan, steam, capacity 1900 cu. ft.
12x12x14 Hall, steam, capacity 200 cu. ft.
12x12x12 Straight Line, steam, capacity 235 cu. ft.
11x6x6 Pedrick & Ayer, belted, capacity 50 cu. ft.
10x10x6½x12 Norwalk, two stage, steam, capacity 195 cu. ft.
8x10x12 Ingersoll Rand, steam, capacity 152 cu. ft.

Also many others. All refitted and fully guaranteed.

FOR SALE BY

New York Machinery Exchange, - 50 Church St., New York City.

MILLING MACHINES.

Van Norman duplex	$525	No. 21 Garvin, plain, back geared, 6x30 in. table	$225
Becker-Brainerd, plain, 8x30 in. table	200	No. 5 Garvin, plain	150
No. 4 Becker-Brainerd, vertical, 10x36 in. table	500	No. 4 Garvin, plain	125
		Garvin, hand	30

GRINDERS.

Walker, universal	$375	No. 2 Bath, universal	$500

LATHES.

30x12 Flather, modern	$650	Lo-Swing lathe	$575
28x14 New Haven, taper attach.	600	Over 50 smaller lathes, of various makes.	
26x20 Lodge-Barker	650		

TURRET LATHES.

36 in. Bullard	$600	16x6 Pratt & Whitney	$225
26x10 Bullard, with tools	1,150	15 in. J. & L., plain (10), each	100
20x9 Reed	500	10 in. plain (12), each	75

PLANERS.

42x12, 2 heads	$1,000	20x5 Whitcomb	$300
36x16 Sellers, 2 heads	750	20x4 Blaisdell	175
24x6 Pease	350	20x4 Phoenix	125
22x6 Powell	200	18x4 Pratt & Whitney	175

BORING MILLS.

Betts horizontal, 4 in. bar	$1,000	Betts horizontal, 3 in. bar	$750

SCREW MACHINES.

⅞ in. Cleveland, automatic	$300	No. 2½ Garvin, hand, same as new	$450
⅞ in. Cleveland, auto. nearly new.	550	No. 4 Windsor, hand, cap. 2 in.	475
No. 2 Pratt & W., auto., new	475	Hartford auto. stub mches. (3)	300
No. 3 Foster Kimball, hand, new.	530		

MISCELLANEOUS.

Cold saw, No. 1 Newton	$250	Hammer, helve, 200 lb. Bradley	$550
Gear cutter, 36 in. G. & E. auto	550	300 other tools, all sizes and makes.	

SECOND-HAND MACHINERY

FOR SALE BY

Niles-Bement-Pond Company, . 111 Broadway, New York.
Located at Chicago, Boston and New York.

LATHES.

13 in. x6 ft. P. & W. rise & fall rest, taper.
14x6 F. B. Miles, compound rest.
16x6 speed lathe.
14x5 American, square arbor.....$ 50
16x6 Fitchburg, compound rest.
18x6 Blaisdell, rise and fall rest.
19x6 D. W. Pond, turret tool post.
21x6 Bridgeport, turret boring.
21 and 48 in. Harrington, gap, boring and chuck.
21x8 Star, turret carriage.
22x16 Fitchburg.
32x10 Pond, compound rest.

TURRET MACHINERY.

¾ in. No. 1 Garvin, wire feed.....$125
¾ in. No. 0 Pratt & W., wire feed.
24 in. Conradson, semi-automatic.
28 in. size J, Gisholt.
¾ n. No. 00 Hartford, Pratt & Whitney, automatic..... 275
¾ in. No. 0 Hartford, automatic.. 225
¾x1 in. National Acme, 4 spindle automatic.....$ 150
⅞ in. No. 1 Spencer, single turret, automatic..... 150
21-32x1½ in. No. 2 Brown & S., automatic..... 350

PLANERS.

17x17 in.x4 ft. Whitcomb.
26x26 in.x6 ft. Pond.
28x28 in.x16 ft. Ferris & Niles, 2 hds.
30x30 in.x24 ft. Sellers, 2 heads.
32x32 in.x14 ft. Niles.
48x48 in.x 16 ft. Belmar Eames, 4 hds.

SHAPERS.

15 in. Hendey, friction.
18 in. Cincinnati, dbl. hd., traverse.

DRILLS.

9 in. No. 1 Pratt & Whitney, bench.
13 in. No. 1 sensitive friction, 110 volt, d. c. motor.
30 in. Gould & E., sliding head.
36 in. Gould & E., sliding head.
48 in. Niles, sliding head.
Prentiss port. univ. rad., cap. 2 in.
4 ft. 6 in. Barr, plain radial..... 300
5 ft. 6 in. Niles, semi-universal.
6 ft. 10 in. Niles No. 2, semi-univ.
7 ft. 6 in. Niles No. 5, full univ.
10 in. 2 spindle Slate, sensitive.
12 in. 2 spindle Foote-Burt, sensitive.
14 in. 3 spindle Garvin, gang.....$ 60
14 in. 4 spindle D. P. N..... 75
17 in. 4 spindle J. & L., gang.... 75
14 in. 6 spindle No. 3 Garvin, gang.
6 spindle special Langelier.
No. 10, 10 spindle Pratt & Whitney cap. 1 15-16 in., 220 v., d. c. motor.

BORING MILLS.

36 in. No. 2 Brown & S., vert. turret.
Nicholson & Waterman boring machine, 3 in. spindle.
Kelly horizontal, 2 in. spindle.
Bement & Son horiz., 2¾ in. spindle.
Stearns 96 in. special cylinder borer.
10-16 ft. Niles standard.

GRINDERS.

14x2 in. Gould & E., water tool.$ 25
18x2 in. Pedrick, double wet tool 20
24x3 in. Pedrick, double wet tool 75
20x1½ in. Ransom, water tool.
3 in. Sellers drill grinder.
Diamond polishing stand.....$ 15
No. 0 Northampton polishing jack.

MILLING MACHINES.

No. 2 Brown & Sharpe, universal, 20x10x16 in.
No. 2 Garvin, plain, 31½x5x16 in.
No. 4 Brown & Sharpe, universal, 40x7x2 in.
No. 4½ Becker-Brainard, plain, 24x7x 16 in.
Garvin single spindle profiler, table 21x24 in.....$250
¾ in. Garvin hor. screw slotter... 40

MISCELLANEOUS.

Arbor press, power, 3 in. screw.$ 50
Bicycle tube hand rolls 20
Brazing furnace, gasoline, 24x16 in.
Cut-off machine, 2½ in. Betts..... 75
Cut-off machine, 3½ in. Hurlbut & Rogers..... 50
Hack saw, No. 2 Robertson.
Hammer, power, 350 lb. Lingle.
Forging machine, 2 in. Blakesly.
Iron forge on legs, 28x13x8 in... 25
Planer vise, 16x3½ in.....$ 25
Planer vise, 10x2 in., swivel base 30
Punch and shear, combination, power, ⅞ in. capacity..... 25
Spiral spring winding mche., Shuster.
Tapping machine, horizontal, No. 1 Garvin.
Vulcanizer, rubber, Hartford, small.

STEAM ENGINES (New.)

10x10 28 h. p. horizontal single cylinder c. c. automatic.
12x12 45 h. p. horizontal single cylinder c. c. automatic (2).
12x12 45 h. p. horizontal single cylinder c. c. throttling (2).

FOR SALE BY

W. L. Perkins Jr. & Co., 136 Liberty St., New York City, N. Y.

Machine Tools out of a prominent engine shop, to be sold at once, through a change in the work and for want of room, at these extremely low prices.

LATHES.

Item.		
1105	13x4 speed lathe	$ 25
335	13x5 Prentiss, rise and fall rest, 1⅛ in. hole	125
216	14x6 Reed, rise and fall rest, ⅞ in. hole	125
126	16x6 Atlantic pattern	75
367	16xx8 Harrington, plain rest	150
334	18x5 Reed stud, plain rest	125
363	20x8 Bement Wood lathe	50
368	20x8 Harrington, compound rest	175
380	20x8 Harrington, compound rest	175
360	20x10 Harrington compound rest	225
375	20x11 ft. 8 in. Bement single-end axle lathe	275
394	22x10 Harrington, compound rest	275
325	26x8 Bement, plain rest, (plain turning)	150
330	26x10 Pond, compound rest, cross feed	475
337	26x12 Blaisdell, compound rest, cross feed	450
397	30x14 Bement, compound rest, cross feed	575
385	30x15 Sellers, compound rest, cross feed	650
383	32x14 Harrington, compound rest, cross feed	550
322	34x8 Johnson, plain turning, compound rest	350
382	38x14 Harrington, compound rest, cross feed	375
365	Atlantic column lathe	40

TURRET LATHES.

332	14 in. B & S., pl. hd.	$125	465	2x24 in. J. & L. flat tur.	$450
333	18 in. American, brass	275	434	24 in. Gisholt	800
393	18 in. American, brass	250	435	26 in. Conradson	850

PLANERS.

451	17 in.x3 ft. Bement	$125	389	25x25 in.x5 ft. 8 in	$275
359	17 in. Bement, crank	125	353	26x26 in.x6 ft. Putnam	200
396	25x25 in.x5 ft. 8 in	275	10	32x32 in.x8 ft. Pond, dbl. head	550
354	26x26 in.x6 ft., N. Y. S. E. Co.s	225	388	46x46 in.x7 ft. 4 in. Sellers	675

SHAPERS.

452	10 in. Bement	$ 75	457	12 in. Fitchburg	$ 75

UPRIGHT DRILLS.

5003	4 spindle gang	$ 25	343	32 in. Pond, sliding head	$125
456	10 in. Foote-Burt, 4 spdl, sensitive	125	376	32 in. Bement, sliding hd.	125
377	30 in. Aurora, sliding head	150	152	36 in. Gould & Eberhardt, sliding head	175
378	30 in. Aurora, sliding head	150	384	44 in. Sellers, sliding head	125

RADIAL DRILLS.

408	4 ft. Bement	$400	410	6 ft. Niles	$850
413	5 ft. Bement	500	409	8 ft. Bement	675

MILLING MACHINES.

471	Newton valve miller	$ 150	387	24 in.x8 ft. Bement, slab	$1250
355	34 in.x11 ft. Newton hor. slab	1800	358	Newton, Lincoln type	150
			282	Pedrick & Ayer, large size	175

HORIZONTAL BORING MACHINES.

452	No. 2 Bement	$600	5015	Garvin, 1¾ in. bar	$275
386	Bement, 2¾ in. bar	550	5001	Hor. traverse drill	25

SLOTTERS.

348	8 in. Hewes & Phillips	$300	347	12 in. Sellers	$400
346	12 in. Sellers	450	345	12 in. Sellers	400

BENDING ROLLS.

351	25 in. hand rolls	$ 40	371	4 ft. 9½ in. hand rolls	$ 25
370	3 ft. 4 in. hand rolls	25			

BOLT CUTTERS AND NUT TAPPER.

339	1½ in. bolt cutter, Putnam	$125
381	1½ in. bolt cutter, Acme, double head	350
392	6 spindle nut tapper	450

PIPE MACHINES.

379	4 in. Cox	$250	14003	4 in. Philadelphia	$125
14004	4 in. Armstrong	75			

SECOND-HAND MACHINERY

(W. L. Perkins, Jr. & Co.—Continued.)

PUNCHES AND SHEARS.

373	6 in. hand punch	$ 12
331	11 in. power punch	75
391	No. 5 Long & Allstatter punch, 1½x¾ in.	300
390	No. 4 Long & Allstatter punch, 1x¾ in.	350

MISCELLANEOUS.

349	Centering mche., Whiton	$ 40	352	Hammer, 30 lb. Williams-White	$160
12042	Cold saw, 3 in. Lucas	90	404	Oil Separator	40
364	Grinder, Yankee tw. dr.	50	439	Pump, 12x8x12 Delamater	75
372	Grinder, 2 wheel emery	10	440	Pump, 12x8x12 Dudley	100
586	Groover, bench	10	441	Pump, 6x4x6 Worthington	40
350	Hammer, Perkins, foot	25			

Corliss engine, pumps, cranes, cupolas, etc.
Inspection can be made or further information furnished.

FOR SALE BY

The Cincinnati Planer Co., - - - Cincinnati, Ohio.

LATHES.

15x5 Dreses, turret.
16x6 screw, automatic.

PLANERS.

22x22x5 Wheeler, 1 head.
24x24x6 Pease, 1 head.
24x24x6 Pond, 1 head.
30x30x15 Cinti, 1 hd., arr. for d. h.
36x36x14 Chandler, 2 heads.
74x56x20 L. W. Pond, 2 heads.

MISCELLANEOUS.

Balancing ways, Bowsher.
Belt lacing machine.
Boring and drilling machine, horizontal, No. 1 Fosdick.
Commercial motor, 25 h. p.
Cranes, hand, 5 ton, 30 ft. span (2).
Drill, plain radial, 5 ft. Fosdick, parallel drive.
Drill, sensitive, 14 in. American.
Hack saw, power.
Hoist, Harrington, 3 ton (2).
Hoist, Yale & Towne triplex, 4 ton.
Hoist, Yale & Towne, triplex, 5 ton.
Hoist, Yale & Towne, triplex, 8 ton.
Variable speed countershafts, Reeves (2).

FOR SALE BY

Cincinnati Machinery Co., 308 Johnston Bldg., Cincinnati, Ohio

LATHES.

14x 6 p. r., L. & D.
16x 6 Porter, c. r.
18x10 Bradford, p. r.
20x 6 Putnam, p. r.
22x10 American, c. r., q. c.
24x15 New Haven, c. r.
28x 9 old style.
36x25 New Haven, c. r.
38x18 New Haven, c. r.

PLANERS AND SHAPERS.

15x15x3 New Haven.
16 in. Barker, crank shaper.
18 in. Barker, crank shaper.
24x24x6 L. & Davis.
24 in. L. & D., geared shaper.
36 in. Walcott, geared shaper.
36x40x10 old style.
48x48x12 Gray, 2 heads.

DRILLS.

20 in. Silver.
24 in. Aurora, b. g., p. f.
32 in. Aurora. b. g., p. f.
5 ft. Gray, radial.

MISCELLANEOUS.

Air compressor, 8x8 in., belt drive.
Air compressor, 12x14x12 ft., st. dr.
Boring machine, 18 in. cylinder.
Drop press, 3,000 lb.
Engines, automatic, 50 to 150 h. p.
Gas engines, 3 to 50 h. p.
Lathe, 36 in. turret chucking.
Nut tapping machine, 2 in., 4 spdl.
Pipe cutting machine, Custer.
Power presses.
Pulley lathe, 60 in. Stevens.

If you have anything in machinery to sell or exchange, write us.

SECOND-HAND MACHINERY

FOR SALE BY

Detroit Hoist & Machine Co., - - Detroit, Mich.

Shaper, 10 ft. 6 in. stroke by 25 in. over all reach, Cincinnati, open side, 2 speeds, nearly new.
Want a vertical boring mill, 36 or 42 in. standard.

FOR SALE BY

The Osborne & Saxton Machinery Co., . . Columbus, Ohio.

LATHES.

2x24 Jones & Lamson turret.
13x8 Barnes, compound rest, h. s.
16x6 Fitchburg, compound rest.
16x10 L. &S., quick change, h. s., taper.
18x6 r. & f.
20x18 Hamilton, quick change, taper.
27x12 special lathe.
36x14 New Haven.
36x18 New Haven.
48x18 Fifield, triple geared.

DRILL PRESSES.

4 spindle sensitive.
20 and 21 in. plain and back geared.
20 in. Davis, complete, nearly new.
54 in. Sellers, back geared, power fd.

PLANERS.

30x24x8 Steptoe-McFarlan.
30x30x12 Bement-Doherty.

MISCELLANEOUS.

Air compressor, 100 ft. Bury.
Boring mill, 72 in. Sellers.
Boring mill, 83 in. Johnson.
Bulldozer pump, 6 in. Meyers.
Cock grinder, double.
Flexible shaft drill, complete.
Gas engines, 10, 15, 25 and 100 h. p.
Gas furnace, No. 2 Chicago.
Grinders, wet, 20 in. wheel, (2).
Hack saws, Nos. 1, 2 and 3.
Hammer, steam, 1,100 lb. Morgan.
Hammers, 3,000 and 5,000 lb. Toledo.
Keyseater, 1 in. W. P. Davis.
Press, foot, Niagara, heavy,
Presses, foot, No. 1 Consol, (5).
Presses, power, No. 0 Consol, (2).
Shaper, geared, 18 in. Lodge-Davis.
Tapping mches., Webster & P., (2).

FOR SALE BY

J. W. Wright & Co., . 2nd and Morgan Sts., St. Louis, Mo.

LATHES.

13x5 plain turret.
14x8 American, compound rest.
18x8 American, compound rest.
18x10 Bradford, compound rest.
19x12 Gray, compound rest.
20x12 Gray, compound rest.
42x15, compound rest.

PLANERS AND SHAPERS.

15x15x36 in. New Haven.
24x24 in. x 8 ft. Pease, 2 heads.
36x36x12 Gray, shop worn only.
24 in. Steptoe, triple geared.
56x56x12 ft. Gray.

PRESSES.

No. 3 Swaine, foot (7).
No. 27 Swaine, power (2).
No. 29 Swaine, power (2).
No. 25 Swaine, power(2).
No. 51 Swaine, power (3).
Small presses, power (2).

SCREW MACHINES.

No. 5½ Bardons & Oliver, 2½ in. capacity, A-1.

DRILLS.

1 spindle Washburn, sensitive.
28 in. Sibley, back gear, power feed.
3½ ft. Fosdick, radial.
4 ft. Gang, radial.

MOTORS.

5 h. p. Wagner, a. c., 220 v., 60c., s. p.
5 h. p. Ft. Wayne, a. c., 220v., 60c., 3p.
5 h. p. Fairbanks, a. c., 220v., 60c., 3p.
20 h. p. Ft. Wayne, a. c., 220v., 60c., 3p.
50 light dynamo.

MISCELLANEOUS.

Blower, No. 2 Roots.
Bolt cutter, 1½ in. National, double.
Cock grinder.
Cutter grinder, Cincinnati.
Floor grinder, No. 2 Safety.
Hack saw, power.
Hammer, power, No. 4 Perfect.
Pipe machine, 2 in. Jarecki.
Punch and shear, combination, Ohl.
Tapper, ⅜ in. W. & R.
Vise, No. 5-F., B. & S.
Wheel press, 500 ton.

SECOND-HAND MACHINERY

FOR SALE BY

O. L. Packard Machinery Co., Chicago, Ill., and Milwaukee, Wis.

LATHES.

16x6 Lodge & Shipley.
16x6 Perkins.
22-36x22, plain rest.
36-50x18 Fifield, compound rest.
36 in. chucking.
72x22 comp. rest, with raising blocks to increase swing to 120 in.

DRILLS.

20 in. Barnes, b. g. & p. f.
23 in. Barnes, power feed.
4 spindle Barnes.
3 ft. Bickford plain radial.
5 ft. Bickford universal radial.
5 ft. Cincinnati full universal radial.

MILLERS.

No. 2 Becker-Brainard vertical.
No. 5 Garvin, plain.

MISCELLANEOUS.

Bolt cutter, dbl., 1½ in. Acme, with lead screw attachment.
Gear cutter, 36 in. Brainard.
Hammer, steam, 250 lbs. Bell.

FOR SALE BY

Baird Machinery Company, 23rd & Smallman Sts., Pittsburg, Pa.

ENGINE LATHES AND TURRET LATHES.

18x6 and 18x12 New Haven.
22x8 Pond, has 17 in. 4-jaw chuck.
24x8 Ames and 24x16 Putnam.
28x16 Blaisdell, comp. rest, etc.
12x7 Warner & S. dbl. key lathe.
10x4 foot power speed lathe.
18x6 Am. brass turret lathe.
18x5 Am. Fox turret lathe.

PLANERS AND SHAPERS.

24x24x6 ft. 1 head.
30x30x8 New Haven. 1 head.
36x36x10 Putnam. 1 head.
40x40x12 New Haven. 2 heads.
28 in. Hendy, dbl. geared, 12 in. vise.
28 in. Jyengst geared, 12 in. vise.

VERTICAL AND RADIAL DRILLS.

12 in. Reed sensitive.
10 in. sensitive drill.
21 in. Superior, vertical.
3 spindle Foote-Burt and Garvin.
2 ft. Gang & Co., radial, 1⅛ in. spl.
3 ft. Dreses, plain, 1½ in. spindle.
14 ft. Baush, plain, 1 11-16 in. spl.
4 ft. Fosdick, plain, univ. table.
5 ft. Betts, plain, 3 in. spindle.
5 ft. Prentice, plain, 2½ in. spindle.

GRINDERS.

Greenfield, univ. cutter & tool.
Grinder, with regular equipment.
Pratt & Whitney, twist drill.
Double end buffing stands.
28x3 grindstone, iron frame.
No. 2 Diamond, wet tool.

BOILER SHOP TOOLS.

10 ft. power bending roll.
5 ft. bending roll, drop housing.
30 and 40 in. hand rolls.
Pneumatic chipping & riveting hammers and air drills.
40 lb. Bradley helve hammer.
600 lb. dbl. leg steam hammer.
6, 7 & 8 in. air hoists.
4 and 6 in. tube expanders.
5 and 8 ft. hydro. pneu. riveters.

POWER PRESSES AND PUNCHES.

Nos. 18, 20 and 21½ Bliss inclinable power presses, not geared.
No. 5 Long & Allstatter, sgl. punch & shear, 4 in. throat, capacity ⅞ in. thru ⅝ in.
Dbl. punch & shear with 18 in. tht.
Hand power punches & shears.
Cleveland bevel shear.
Hand screw punches.
Niagara power circle shear.

SCREW MACHINES AND MILLING MACHINES.

15 in. Dreses w. f. screw machine.
18x5 Meridan screw machine.
10 in. screw machine, semi-auto.
Carter & Hakes hand miller.
Lodge & Davis plain miller.
22 in. Ingersoll single spindle slab.

MISCELLANEOUS.

Q. & C. back saw, 12 in. blade.
Reade cold saw, 10 in. blade.
Baird foundry cold saw.
Burr keyseating and keyway broaching machines.
Nickel plating plant, complete with dynamo tanks, etc.
Acme 1½ in. steel bed bolt header.
Acme 2 in. single bolt cutter.
48 in. car wheel boring machine.
Nos. 7, 8, 9 Sturtevant blowers.
Rivet and blacksmith forges.
25 H. P. Bessemer gas engine.
8 H. P. vertical steam engine.

FOR SALE BY

New Haven Manufacturing Co., - - - New Haven, Conn.

PLANERS.

24 in. square x10 ft., double heads, new (2).
40x36 in. x19 ft., double heads, rebuilt, practically good as new; immediate delivery.

FOR SALE BY

The Motch & Merryweather Machinery Company,
707-715 Lakeside Av., N. W., - - Cleveland, Ohio
Branches: Detroit, Cincinnati, Pittsburg.

We offer for sale the following refitted machine tools:

BORING MILLS.

24 in. Bullard, v. t. l.
30 in. Bullard, plain table (2).
42 in. Bullard, rapid production.

BROACHING MACHINES.

No. 3 Lapointe (2).

DRILL PRESSES—UPRIGHT.

20 in. Barnes.
26 in. Prentice, back geared.
32 in. Barnes.
Baker, high speed.
Dallett, portable (2).
6 spindle, Quint, turret.

RADIAL DRILLS.

4 ft. Box, half universal.
4 ft. 6 in. Pond, heavy.

GEAR CUTTERS.

33x9 in. x 4 p. Gould & Eberhardt.
48x10 in. x 3 p. Gould & Eberhardt.
20 in. Rhenania gear hobber.

GRINDERS.

No. 1 Cincinnati cutter, complete.
Leland & Faulconer, wet tool.
No. 2 Leland & Faulconer, wet tool.
"A" Yankee drill.
"PO" Yankee drill.
No. 4 Landis, universal.
No. 24 Landis, plain.
No. 11 Brown & Sharpe, plain (2).

HAMMERS.

60 lb. Bradley, cushion helve.

LATHES—ENGINE.

20x8 Flather, 4 step cone, belt feed, compound rest.
20x8 Flather, 5 step cone, belt feed, compound rest.
22x12 Lathe & Morse, 4 step cone, belt feed, compound rest.
22x15 Pond, compound rest.

LATHE—POLISHING.

No. 3 Diamond.

MILLING MACHINE.

No. 3½ Garvin, plain.

PLANERS.

10 in. Busch, crank, swivel vise.
20x20x4 Wheeler, 1 head.
24x24x6 Ohio, one head.
24x24x6 Whitcomb, 1 head.
27x5 New Haven, 1 head.

PRESSES.

P-4. Ferracute.
No. 62 Toledo, triple geared.

SHAPERS.

15 in. Hendey.
15 in. Smith & Mills, single geared crank.
16 in. Steptoe, crank.
16 in. Gould & Eberhardt, crank.
20 in. Kelly, crank.
24 in. Gould & Eberhardt.
24 in. Ohio, shifting belt.
26 in. Cincinnati, shifting belt.
28 in. Hendey, friction.
32 in. Gould & Eberhardt.

TURRET LATHES.

7x14 Potter & Johnson.
22 in. Universal, chuck fitted.
24 in. Lodge & Shipley screw mach.
28 in. Gisholt, rapid traverse.
44 in. Grant chucking lathe.

MISCELLANEOUS.

No. 2 Baker, cylinder borer.
10x37 in Chicago pneumatic gap riveter.
17 in. Peerless belt lacer.
No. 1 Caskey pneumatic punch.

THE LODGE & SHIPLEY MACHINE TOOL CO.

Second-Hand Machine Tools
For Sale at Bargain Prices.

LATHES.

One 24 in. x 8 ft., 5 step cone head, quick change gear, Lodge & Shipley Engine Lathe.
Two 3½ in. x 60 in. Fitchburg Lo-Swing Lathes.
One 2x24 in. Jones & Lamson Flat Turret Tathe.
One No. 3 Lodge & Shipley Rapid Reduction lathe, with 8 ft. bed.

PLANERS.

One 36x36 in. x 10 ft., 3 head, Sellers.
One 36x36 in. x 26 ft., 4 head, Sellers.
One 42x42 in. x 20 ft., single head, Putnam.

MISCELLANEOUS.

One Whiton Revolving Centering Machine.
One Franklin Cold Saw, 3½ in. capacity.
One Schuster ½ in. Riveter, Model "A."
One Mumford 12x40 in. power ramming Molding Machine.

The Lodge & Shipley Machine Tool Co.
CINCINNATI, OHIO, U. S. A.

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